



transportation analysis 5

The Fairfax Boulevard Master Plan provides for the organized redevelopment of the corridor and addresses specific recommendations for the physical improvement of the roadway. Through careful planning and engineering, the street can become a “great street”; a street that handles the movement of automobiles while also providing great addresses for the economic revitalization of the area.

During the March 2007 design charrette, Hall Planning & Engineering (HPE), traffic engineering, worked as a central component in the design process to further transform the character of this important Fairfax roadway. The charrette included interviews with stakeholders to identify transportation issues, as well as an examination by HPE of the area’s transportation context. HPE studied traffic speeds and street designs in a sample of Fairfax locations, conducted interviews with City Public Works, Fire Department, Engineering and Planning staff, as well as met with local citizens, business owners and developers.

This chapter highlights specific roadway improvements; additional information on the transportation analysis can be found in Appendix C.



Fairfax Boulevard today

BACKGROUND ANALYSIS

The City of Fairfax serves as a regional suburban transportation system for Northern Virginia and Washington, D.C. and has experienced four generations of commuters. The first generation, rural in nature, was marked by east/west travel along Fairfax’s smaller main street highways and routes, such as Route 236. The second generation of travelers began utilizing the higher capacity east/west arterial of Fairfax Boulevard or Lee Highway (Route 29/50). The third was served by Interstate 66, just north of Fairfax Boulevard, but as the interstate becomes increasingly congested, traffic returns to Fairfax Boulevard and Route 236. The fourth generation of commuters is marked by increased transit use, such as the Metrorail and the City University Energysaver (CUE) bus.

Existing Conditions

The City’s predominate regional travel pattern is east/west, while demands for north/south travel have increased over the last several decades. The 2003 U.S. Census highlights that new commuter travel demands movement throughout Northern Virginia and Maryland, not just travel to Washington, D.C. from surrounding suburbs. In the metropolitan area, the City of Fairfax witnesses the third highest number of workers who commute to its jurisdiction from another locale.

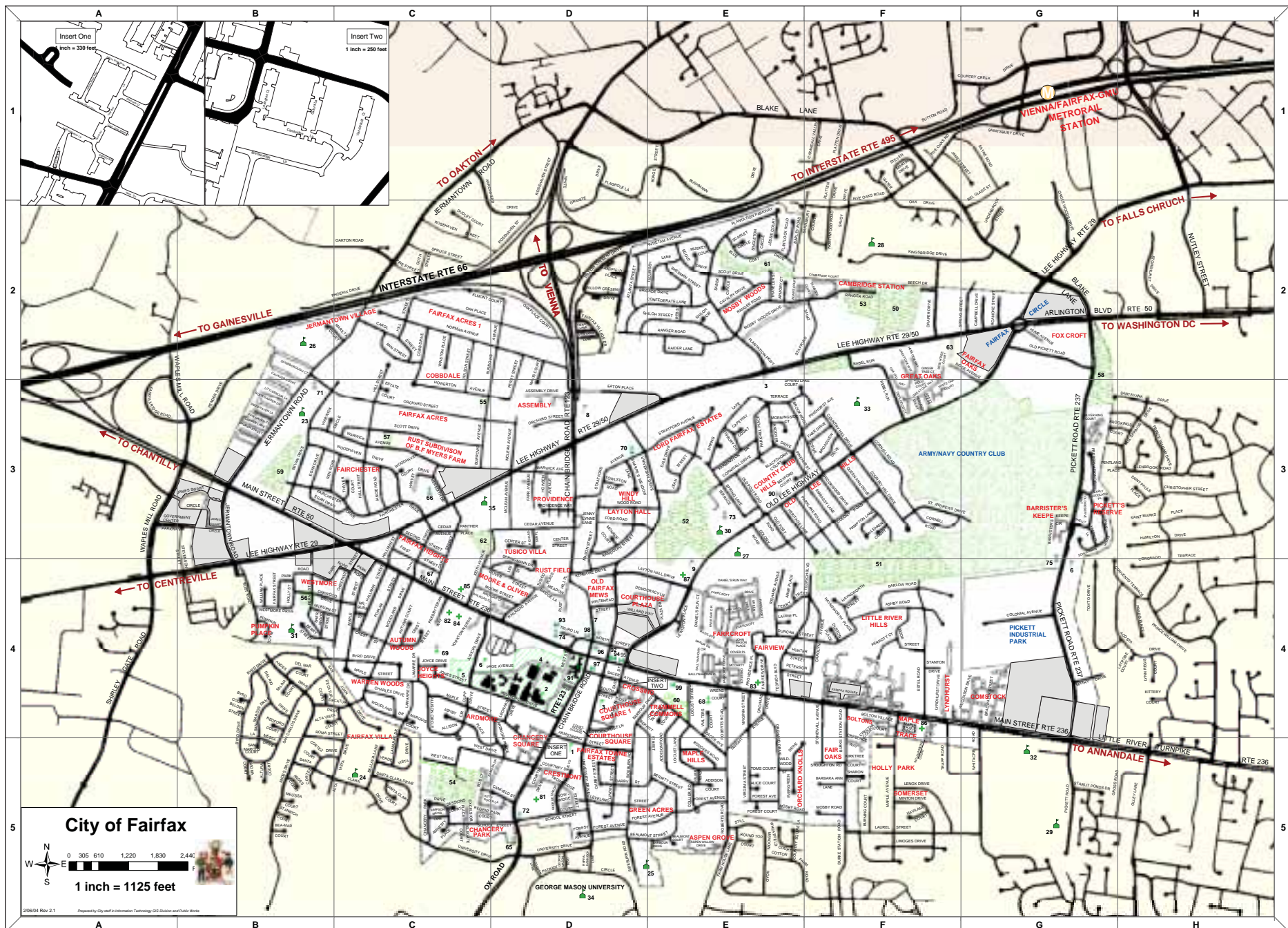
Fairfax Boulevard plays a dominate role in the City’s regional transportation system as it still serves as a major east/west commuter route to and from Washington, D.C. The intersections of Lee Highway and Fairfax Boulevard (Fairfax Circle), Chain Bridge Road and Fairfax Boulevard (Northfax), and Main Street and Fairfax Boulevard (Kamp Washington) are the intersections experiencing the greatest peak hour congestion from commuter traffic. The City has constructed a series of north/south connectors to alleviate some of

the congestion realized at Fairfax Boulevard’s key intersections with the Blake Lane/ Pickett Road connection, the improvement of Shirley Gate from Braddock Road to Route 29, and the completion of Waples Mill Road. While attempts have been made to alleviate congestion, street improvements have been focused solely on the automobile with very little consideration for walkability. The quality of life for Fairfax residents and visitors has diminished along with the vitality of the Boulevard.

As commuters continue to utilize the Fairfax street network and transit use increases, there is a great opportunity to revitalize Fairfax Boulevard. Balancing the need to move regional commuters through the area, while providing safe and efficient multi-modal travel, is a challenge best met by mixed land use and traditional transportation design that optimizes opportunities for capacity, vehicular speed and modal choices. This challenge can be addressed by redeveloping Fairfax Boulevard within the context of the vision identified during the planning charrette– to redesign Fairfax Boulevard as a tree-lined, multi-way boulevard. The multi-way boulevard will improve its appearance and create a more pedestrian-friendly and inviting shopping, business, and residential environment. Redevelopment plans should control direct access from individual properties, emphasize pedestrian accessibility, and improve public transit use to balance Fairfax Boulevard as a commuter route and vibrant business corridor.

Fairfax Boulevard Traffic Volumes

Fairfax Boulevard is characterized in the City’s 2004 Comprehensive Plan as “the backbone of the City’s economy, serving a dual role as a principal mover of traffic through the City and as a concentrated business boulevard with important focal areas and major City gateways.” It is one of four



Fairfax City Street Map

major transportation corridors within the City (the others are Main Street, Chain Bridge Road, and Pickett Road). According to 2005 traffic counts conducted by the Virginia Department of Transportation, Fairfax Boulevard is carrying the highest traffic volumes of these four corridors with annual average daily traffic (AADT) ranging from 59,000 at the western edge of the Boulevard and 34,000 east of Fairfax Circle (see Table and Figure 1).

Traffic Trends

According to Virginia Department of Transportation estimates of daily traffic volumes, Fairfax Boulevard traffic volumes have either remained stable, or have declined over the period 2001 – 2005 (see Table 2).

Estimated Peak Service Volumes

Utilizing generalized tables based on *Highway Capacity Manual* definitions and methodology, HPE estimated the current Fairfax Boulevard PM peak hour/peak direction maximum service volume as:

- 4-lane section: 1,860 vehicles per hour
- 6-lane section: 2,790 vehicles per hour

These estimates are based on an assumed level of service “D” and a signalization range of 0.0 to 1.99 traffic signals per mile (see Table 3).

A comparison of estimated PM peak hour traffic volumes to maximum service volume indicates the Fairfax Boulevard segments closest to capacity are:

- West City Limits to US 29S/Lee Highway
- SR 237/Pickett Road to the East City Limits

From	To	Length (miles)	AADT ²	K-Factor ³	D-Factor ⁴	% Bus ⁵
West City Limits	US 29S/Lee Hwy	0.57	59,000	0.0785	0.5216	0%
US 29S/Lee Hwy	Chain Bridge Rd	0.96	36,000	0.0755	0.6111	0%
Chain Bridge Rd	University Dr	0.21	36,000	0.0742	0.5794	0%
University Dr	Plantation Pkwy	0.59	43,000	0.0729	0.5748	0%
Plantation Pkwy	Draper Dr	0.68	42,000	0.0774	0.5702	0%
Draper Dr	US 29N/Lee Hwy	0.28	37,000	0.0824	0.6037	0%
US 29N/Lee Hwy	SR 237/Pickett Rd	0.28	34,000	0.0780	0.5357	0%
SR 237/Pickett Rd	East City Limits	0.03	40,000	0.0811	0.5722	0%

¹ 2005 Daily Traffic Volume Estimates: City of Fairfax Report 151 (Virginia Department of Transportation)

² Annual Average Daily Traffic (AADT)

³ Peak hour factor – estimate of the portion of traffic volume traveling during the peak hour

⁴ Directional factor – traffic volume traveling in the peak direction during the peak hour

⁵ Percent of the traffic volume made up of busses

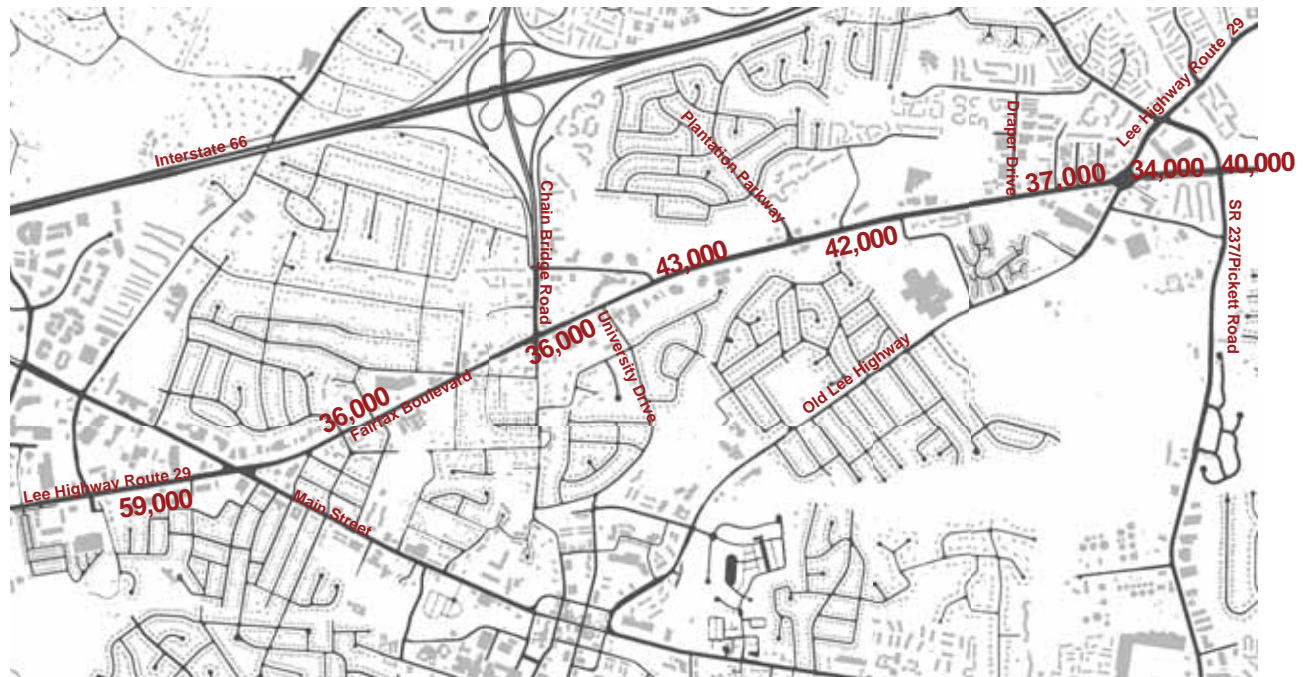


Figure 1: Existing traffic counts on Fairfax Boulevard

Current Fairfax Boulevard Level of Service

The measures of traffic flow indicate the relatively flat growth in daily traffic noted in Table 2. For these 8 segments of the Boulevard, none have 2005 daily volumes greater than the highest volume measured since 2001. This generally indicates a corridor that has reached capacity and is in the process of spreading into other hours in the peak period. Levels of service (LOS) for the Fairfax Boulevard segments were evaluated using the Synchro traffic operations program.

The LOS is a single letter that reflects a variety of different measurements, including travel delay, queuing, vehicle volume versus capacity, travel speed, and others. The LOS letters, which range from A through F, are similar to but not analogous to letter grades on a school report card. Essentially, LOS A indicates a street or intersection that is lightly-used and possesses much more capacity than needed for given traffic volumes, present or future. LOS B and C indicate progressively busier intersections that may also have greater capacity than is needed for current traffic demands. LOS D and E indicate intersections that are approaching their traffic-handling capacity for a given peak hour. These intersections move higher volumes of traffic. Because streets and intersections are expensive to build and maintain, many if not most cities specify LOS D or E as an acceptable LOS on their transportation network. Operating at LOS D or E ensures that intersections are performing at their most effective traffic-handling capacity.

LOS F indicates that a street or intersection has greater demand than capacity for a given peak hour. In such instances, travelers accept a trade-off of motor vehicle congestion and traffic delay in exchange for greater balance with other travel modes and the preservation of other desirable qualities.

City of Fairfax consultants prepared these program inputs for the base condition using current traffic counts and signal settings. Resulting LOS estimates for the PM peak hour are summarized in Tables 4 and 5.

These tables illustrate that for most segments of Fairfax Boulevard, traffic is flowing at a level of service “D” or better, with few exceptions at Chain Bridge Road, Pickett Road, Jermantown Road and Lee Highway, which represent the intersections that serve heavy north/south volumes, as well.

Overall westbound level of service between Pickett Road and Chain Bridge Road is “C”, while decreasing to level of service “E” between McLean Avenue and Jermantown Road. The detailed Synchro analysis can be found in Appendix C.

Observations of AM peak traffic on the eastern end of the study area show that Fairfax Circle experiences some spillback from the 4 lane sections east on Arlington Boulevard/Route 50. The lane reduction from 6 to 4 total through lanes causes this queuing, in conjunction with northbound

Table 2: HISTORICAL FAIRFAX BOULEVARD TRAFFIC VOLUMES¹

From	To	2001 AADT ²	2002 AADT ²	2003 AADT ²	2004 AADT ²	2005 AADT ²
West City Limits	US 29S/Lee Hwy	34,000	63,000	62,000	61,000	59,000
US 29S/Lee Hwy	Chain Bridge Rd	29,000	36,000	33,000	33,000	36,000
Chain Bridge Rd	University Dr	37,000	39,000	36,000	36,000	36,000
University Dr	Plantation Pkwy	45,000	44,000	40,000	40,000	43,000
Plantation Pkwy	Draper Dr	37,000	43,000	38,000	38,000	42,000
Draper Dr	US 29N/Lee Hwy	44,000	45,000	40,000	40,000	37,000
US 29N/Lee Hwy	SR 237/Pickett Rd	28,000	35,000	35,000	34,000	34,000
SR 237/Pickett Rd	East City Limits	44,000	45,000	45,000	44,000	40,000

¹2001 - 2005 Daily Traffic Volume Estimates: City of Fairfax Report 151 (Virginia Department of Transportation)

²Annual Average Daily Traffic (AADT)

Table 3: ESTIMATED 2005 PM PEAK HOUR TRAFFIC VOLUMES

From	To	Travel Lanes	Peak Direction	Off-Peak Direction	Max Service Volume
West City Limits	US 29S/Lee Hwy	4L	2,416	2,216	1,860
US 29S/Lee Hwy	Chain Bridge Rd	4L	1,661	1,057	1,860
Chain Bridge Rd	University Dr	4L	1,548	1,124	1,860
University Dr	Plantation Pkwy	6L	1,802	1,333	2,790
Plantation Pkwy	Draper Dr	6L	1,854	1,397	2,790
Draper Dr	US 29N/Lee Hwy	6L	1,841	1,208	2,790
US 29N/Lee Hwy	SR 237/Pickett Rd	4L	1,421	1,231	1,860
SR 237/Pickett Rd	East City Limits	4L	1,856	1,388	1,860

right turning traffic at the Pickett Road intersection. This condition will continue regardless of the 4 or 6 lane configuration of Fairfax Boulevard in the study area to the west or the roundabout design for Fairfax Circle. The design approach for all of Fairfax Boulevard should be one of “capacity balancing” instead of simply increasing number of lanes wherever possible. Walkability of the streets in the vicinity of Fairfax Circle, Northfax, and Kamp Washington, through diligent speed management, is also critical and blends with this balanced approach to street design.

Signals / Timing

Current signal timing is effective for the operational goals now set for Fairfax Boulevard. Generally, the traffic signals will need monitoring and adjustment to match the balanced design that seeks greater walkability for areas near the town centers. Speeds should be posted at 30 mph for Fairfax Boulevard and 25 mph for streets internal to the town centers. Eaton Place should be set at 30 mph.

Several added traffic signal locations will likely be needed as town center streets are designed and constructed. Pedestrian crossings for all four approaches to each intersection will also be required to achieve desired walkability. The added green time dedicated to the pedestrian phases will slightly reduce the LOS for each intersection but greatly enhance the pedestrian and bicycle potential along the corridor. Each new signal and crosswalk will address the pedestrian concerns to facilitate successful redevelopment of the Boulevard.

Table 4: ARTERIAL AND INTERSECTION LEVEL OF SERVICE: EAST FAIRFAX BLVD			
Segment Cross St	Intersection LOS	EB Arterial LOS	WB Arterial LOS
Chain Bridge Rd	F	F	E
University Dr	D	E	D
Eaton Place	C	C	C
Plantation Way	B	B	C
Stafford Dr	A	B	B
Rebel Run Dr	A	C	B
Draper Dr	C	B	C
Old Lee Hwy	B	C	D
Pickett Rd	F	F	C
Average LOS	NA	D	C

Table 5: ARTERIAL AND INTERSECTION LEVEL OF SERVICE: WEST FAIRFAX BLVD			
Segment Cross St	Intersection LOS	EB Arterial LOS	WB Arterial LOS
Jermantown Rd	F	E	F
Bevan Dr	B	C	C
Lee Hwy	F	F	E
Fairchester Dr	A	B	C
Oak St	B	C	D
McLean Ave	D	D	F
Average LOS	NA	D	E

Fairfax Boulevard – Designing a “Great Street”

From a transportation planning context, HPE recognizes a fundamental tension in the design of Fairfax Boulevard between the need to move large volumes of traffic and the desire to create a walkable thoroughfare. In order to balance this tension, the planning team recommends the following strategies:

1. Identify a specific urban design vision for the Boulevard
2. Transform Fairfax Boulevard into a multi-way boulevard
3. Create walkable thoroughfares
4. Improve the special intersections at the nodes
5. Rethink the way parking is handled
6. Enhance and increase transit opportunities

1. Identify a specific urban design vision for the Boulevard

Much of America's suburban land development pattern results from street and highway networks dictating its structure. Highways designated as arterials change little as they approach developed areas. Generally speeds drop from 55 to 45 or 35 mph, but on-street parking is usually not allowed in emerging areas and is often removed from older areas. Arterial street designs, by definition, tend to exclude intersections with side streets of limited volume, leading to longer block size (600 to 1,000 feet and higher) and higher speeds 45 mph or more, both of which cause difficulty for pedestrians. The arterial design concept emerged from a rural heritage and rarely serves urban peak travel demand well due to exclusive reliance on the single facility serving a single mode of travel – the motor vehicle.

To achieve urban places that encourage (and thrive with) pedestrians, bicycles, and transit vehicles as part of the mobility mix, the patterns of proposed

development must be specified first, during the community planning stage. Then, transportation plans for balanced mobility can be crafted with walkability considered first and vehicle mobility second. This is not to imply that motor vehicle mobility will be dramatically reduced, but that pedestrians, being exposed to the open environment are more vulnerable than when they are drivers, and solutions for their comfort are more complex. Often, greater walkability yields only small reductions in vehicle capacity, even though vehicle speeds are lower. Generally more streets per square mile result from a more open network and drivers can avoid the degree of peak hour congestion that occurs when a limited number of large streets break down.

One of the key urban design visions for Fairfax Boulevard, as described by the community and refined by the design team during the charrette, is to make the Boulevard a walkable ‘great street.’

This vision strongly influenced the transportation design criteria for Fairfax Boulevard. The return to a walkable and vibrant corridor requires managing traffic speeds to pedestrian friendly levels and ensuring connectivity of the street system. To accomplish this vision, HPE recommends the use of walkable thoroughfares for specific sections of the study area, as described in the proceeding pages.

2. Transform Fairfax Boulevard into a multi-way boulevard

To balance vision and constraints, the proposed overall design of Fairfax Boulevard is a type of Multi-way Boulevard. A multi-way boulevard is a street design that can simultaneously handle large volumes of through traffic while encouraging street-front development appropriate for an urban center. The concept and operating characteristics of multi-way boulevards are described comprehensively by Allen Jacobs and Elizabeth McDonald in *The Boulevard Book*, the source for much of the information related here.

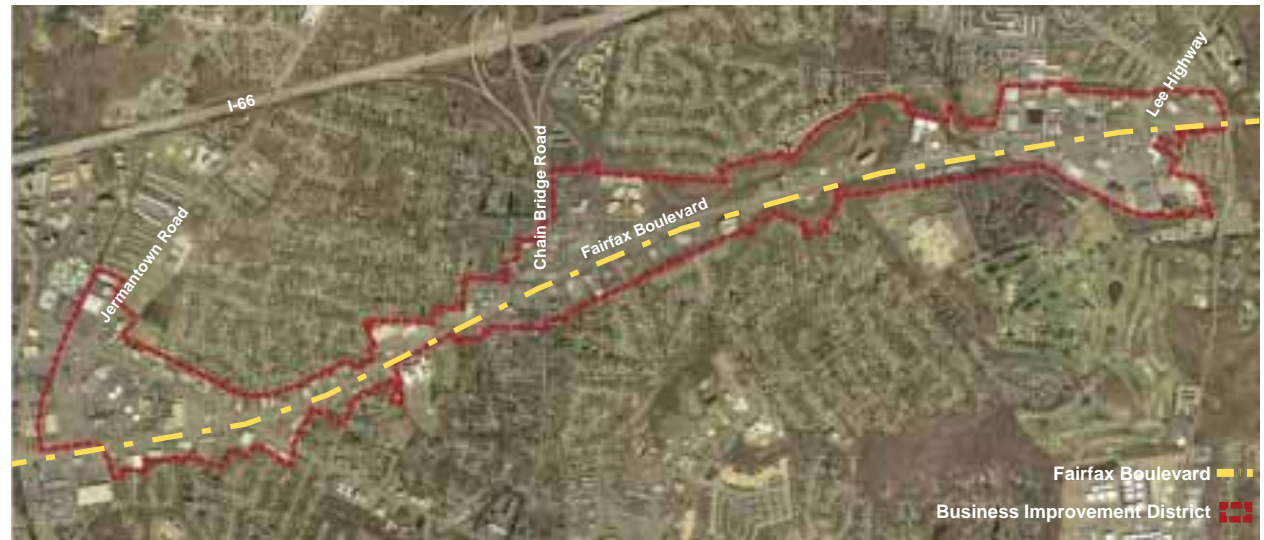


Figure 2: Aerial view of the study area



Figure 3: The network of streets adjacent to the boulevard provides for local circulation.

The multi-way boulevard is a time-tested concept found worldwide. Several exceptional examples were built at the end of the 19th century in New York, and modern multi-way boulevards have been constructed more recently in Chico, California and San Francisco, California.

Structure of a Multi-way Boulevard

The center of a multi-way boulevard is comprised of 4 or 6 lanes. These lanes serve the traditional function of an arterial street – to move automobiles as quickly and safely as possible. The center lanes are considered the “motor vehicle realm”, and most design considerations follow the motor vehicle mobility function, as with contemporary arterial design. A key concession to pedestrians is that speeds are managed in the 30 to 35 mph range by techniques such as narrower lanes and shorter blocks.

On either side of the center lanes are wide park-like medians with shared-use paths, an adjacent one-way access lane, a lane of on-street parking, a wide sidewalk, and street-front buildings. Some variations have parking on both sides of the one-way access lanes, depending on development intensity. The one-way access lanes are designed for speeds of 15 mph. This area, from the inner edge of the median adjacent to the center travel lanes to the front of the buildings, is considered the “pedestrian realm”. Within this area, design considerations place the pedestrian function first, with great walkability as the primary design goal. Illustrated in Figure 3, the network of streets behind the buildings provides for local circulation. Fairfax Boulevard will require a similar network.

Function of a Multi-way Boulevard

Each element of the multi-way boulevard illustrated in Figure 4 functions in a unique manner as described below:

Center Through Lanes: These lanes do the “heavy-lifting” of traffic movement, allowing large volumes of traffic to pass through the area. They also bring potential customers within viewing distance of the shops and storefronts built along the boulevard edges.

Wide Park-like Median: These side medians mark the beginning of the pedestrian realm. Planted rows of trees provide enclosure, helping to manage center street speeds. The median provides shade and protection for pedestrians and the shared-use path allows bicycling, roller-blading, and strolling, with ample benches and pedestrian features. The median is a centerpiece of the boulevard design.

Access Lanes: The multi-way boulevard’s one-way access lanes extend parallel to the central lanes serving as parking access lanes. These one-way connections serve the following functions:

- Provide a quiet lane for the store fronts facing the boulevard, analogous to a park view main street due to the wide median
- Provide vital on-street parking and pedestrian connections between blocks
- Allow locally circulating traffic to make easy right-hand turns while circling the block, looking for parking
- Allow local traffic to access parking without using the center lanes

Wide Sidewalk: Sidewalks adjacent to parking allow pedestrians to circulate freely between store fronts, parking spaces and the median park area.

The wide sidewalks provide necessary space for pedestrian shopping and travel needs while still leaving room for sidewalk café tables, a sidewalk sale rack and of course street trees and plantings. Buildings should be located immediately behind the sidewalks to maintain pedestrian convenience and to establish the street wall.

Store Fronts: Retail frontage provides economic viability for town center and other retail areas. On-street parking on arterial streets is often removed when posted speeds are increased to 40 or even 55 mph, destroying the viability of main street and town center shops. Store fronts at the edge of sidewalks, facing multi-way boulevards benefit from reasonable access to passing traffic and a calmed, walkable lane frontage that functions like the traditional downtown park street. The store fronts also send a clear message that this is the “town center”, a message that is difficult to convey with conventional arterial design.

The Multi-way Boulevard Design for Fairfax Boulevard

HPE recommends a multi-way boulevard design for Fairfax Boulevard. Rudimentary access lanes, or frontage roads, have been in place for years connecting many retail and commercial businesses along the Boulevard. Multi-way boulevard sections are recommended for Kamp Washington, Northfax, and Fairfax Circle. Between the Northfax and Fairfax Circle areas, the multi-way boulevard will transition into the 6-lane arterial highway that exists along the green, less developed East Connector area. At Fairfax Circle, the Boulevard will again transition into a 4-lane multi-way boulevard.

The proposed multi-way boulevard for Fairfax Boulevard is intended to encourage walkability, while providing ample movement of through

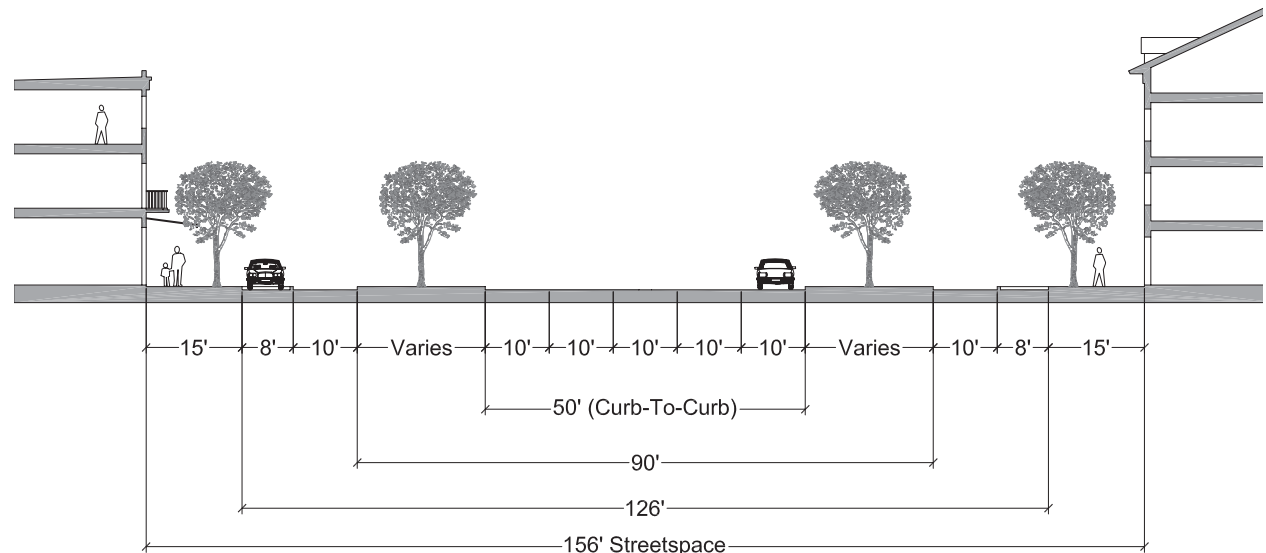


Figure 4: Boulevard (BV) 50-126 Section Drawing

vehicles. Access to adjacent buildings is also vital; it provides the traffic necessary to patronize the boulevard's shops and commercial services. The multi-way boulevard includes a 15 foot sidewalk with shade trees, an 8 foot parallel parking lane, a 10 foot one-way access lane, a 20 foot wide park-like median, two 10 foot travel lanes, a 10 foot safety strip and a repeat of these elements in mirror image (Figure 4).

In the new multi-way boulevard sections, the existing 12 foot lanes should be narrowed to 10' travel lanes to encourage slower vehicular speeds for the comfort and safety of pedestrians. Pedestrian fatalities increase geometrically with increased motor vehicle speeds, thus speed management in high pedestrian areas is essential. The 10 foot center travel lanes require the addition of a safety strip – a textured pavement area in the center

of the street. The textured surface discourages continuous driving on the safety strip but allows temporary usage of the strip by oversize vehicles as needed. The safety strip transitions into left turn auxiliary lanes where needed.

Multi-way boulevard design combines the specific needs of multiple functions into a single, comprehensive, balanced thoroughfare. Pedestrian mobility is a primary function, facilitated by managed motor vehicle speeds. Commercial viability is enhanced with access via multiple travel modes, specifically walking, biking, transit and motor vehicle use. Through movement of commuter and local circulating traffic is also provided without significant loss of capacity. Capacity is provided by green time and lane arrangement at key intersections.

3. Create walkable thoroughfares

In addition to the multi-way boulevard section mentioned above, HPE identified the following street sections for all local streets adjoining Fairfax Boulevard. Following the paradigm of LU-1 / TR-2, or Land Use First/Transportation Second, the design team identified areas for redevelopment and created specific land use designs for these areas. Walkable thoroughfares were then created or adapted from existing street sections to serve these areas with appropriate vehicle speeds.

Most local streets in the walkable centers are designed with two 10 foot lanes, known as an 8/10/10/8 street (shown in blue on Figure 5). This street section, illustrated in Figures 6 and 7, includes a 15 foot sidewalk and tree planting area, an 8 foot parallel parking lane, two 10 foot travel

lanes, an 8 foot parallel parking lane and a 15 foot sidewalk and tree planting area (ST 36-66).

Eaton Place is redesigned for increased walkability, but maintains its four lane configuration. This capacity is needed to balance traffic between Eaton Place and Fairfax Boulevard. Eaton Place is to have four 11 foot lanes and a 10 foot safety strip in the center (ST 40-60; see Figure 7).

A 6-lane road (RD 88-112) is proposed for the existing 6-lane portions of Fairfax Boulevard between Northfax and Fairfax Circle; areas of low-density development and green space (shown in green on Figure 5). This road is marked by a 6 foot sidewalk, 6 foot planting strip, three 12 foot eastbound lanes, a 16 foot median/safety strip and a symmetric repeat of these elements to the other side (see Figure 9).

Several street sections located at the edges of the three commercial centers remain at stage one of the multi-way boulevard evolution. The center lanes are narrowed to 10 feet and medians are widened inward, bringing the 16 foot edge medians to a full 20 foot typical width. As land development patterns change to a more walkable pattern, with buildings to the back of sidewalks, the frontage roads should change accordingly and become multi-way boulevard access lanes of 10 feet with 8 foot parking bays. This street section has either 4 or 6 lanes, 10 feet in width (ST 50-126, see Figure 8) and is proposed for the following major streets that intersect Fairfax Boulevard (shown in brown on Figure 5):

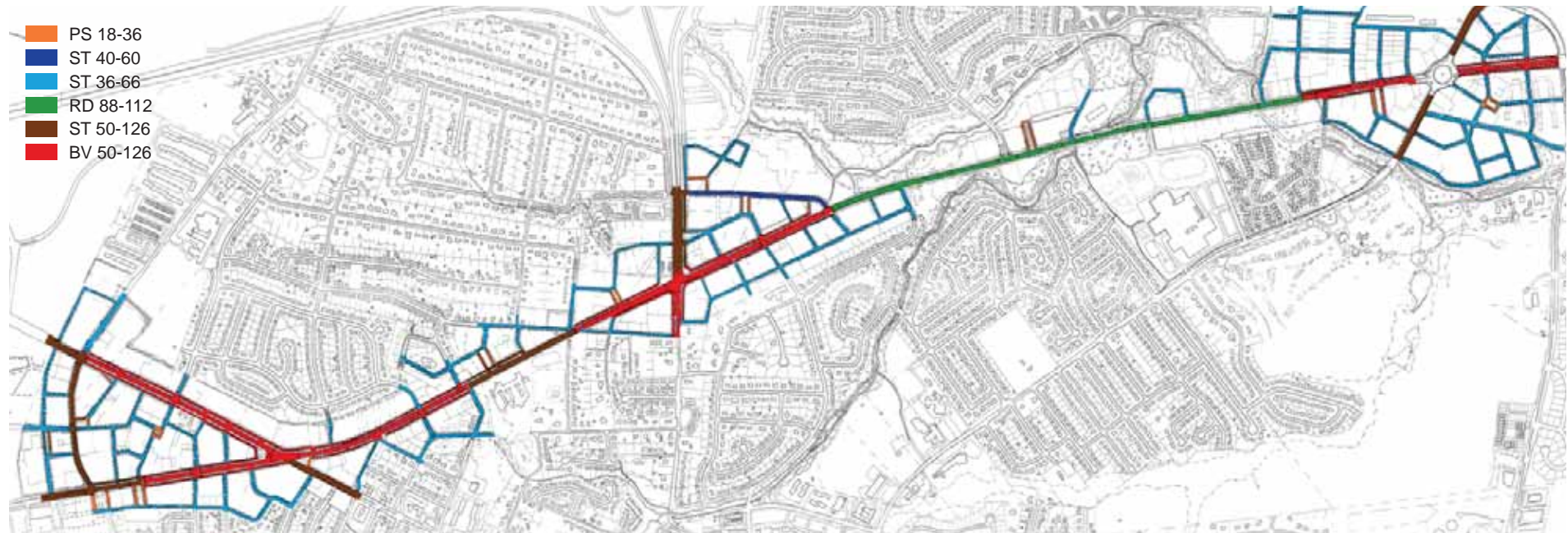


Figure 5: Street Atlas

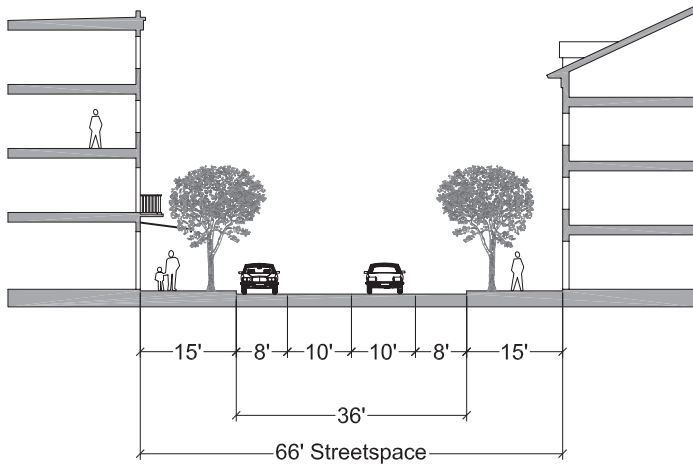


Figure 6: Street (ST) 36-66 Section Drawing

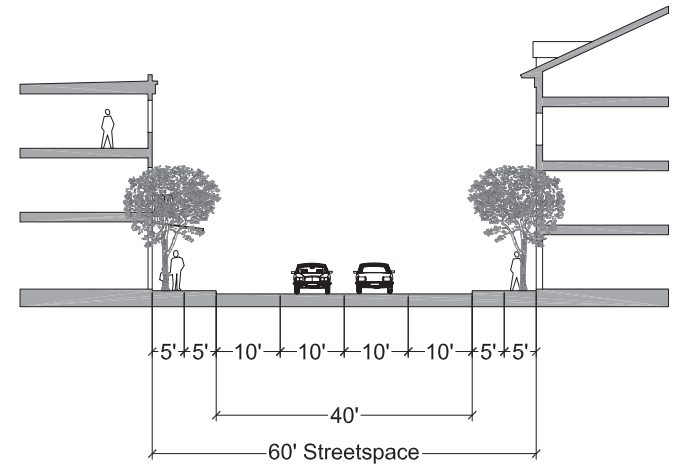
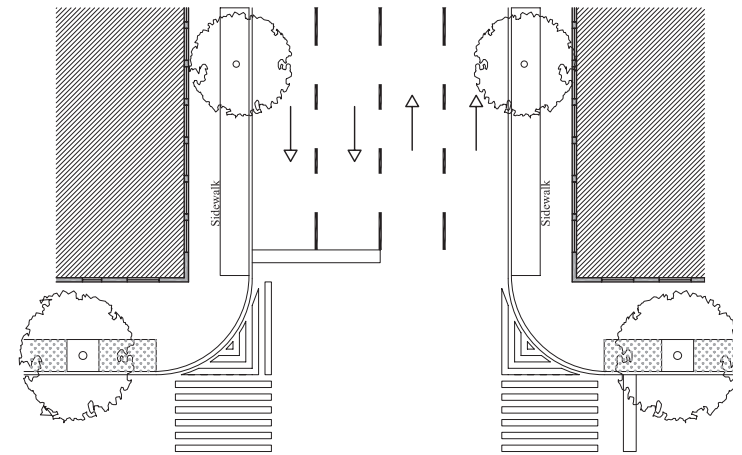
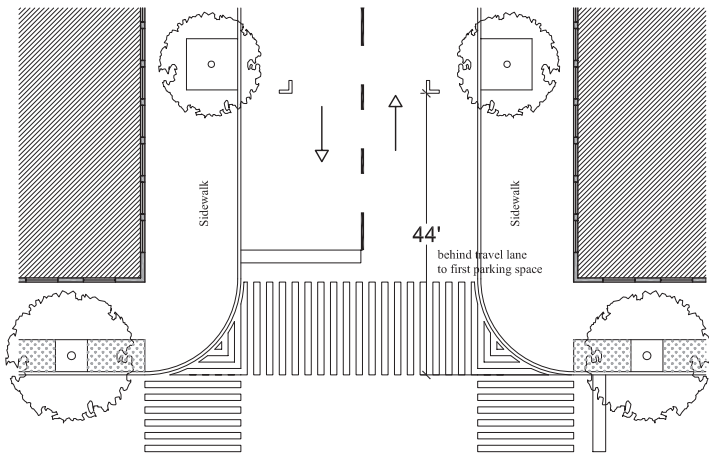


Figure 7: Street (ST) 40-60 Section Drawing



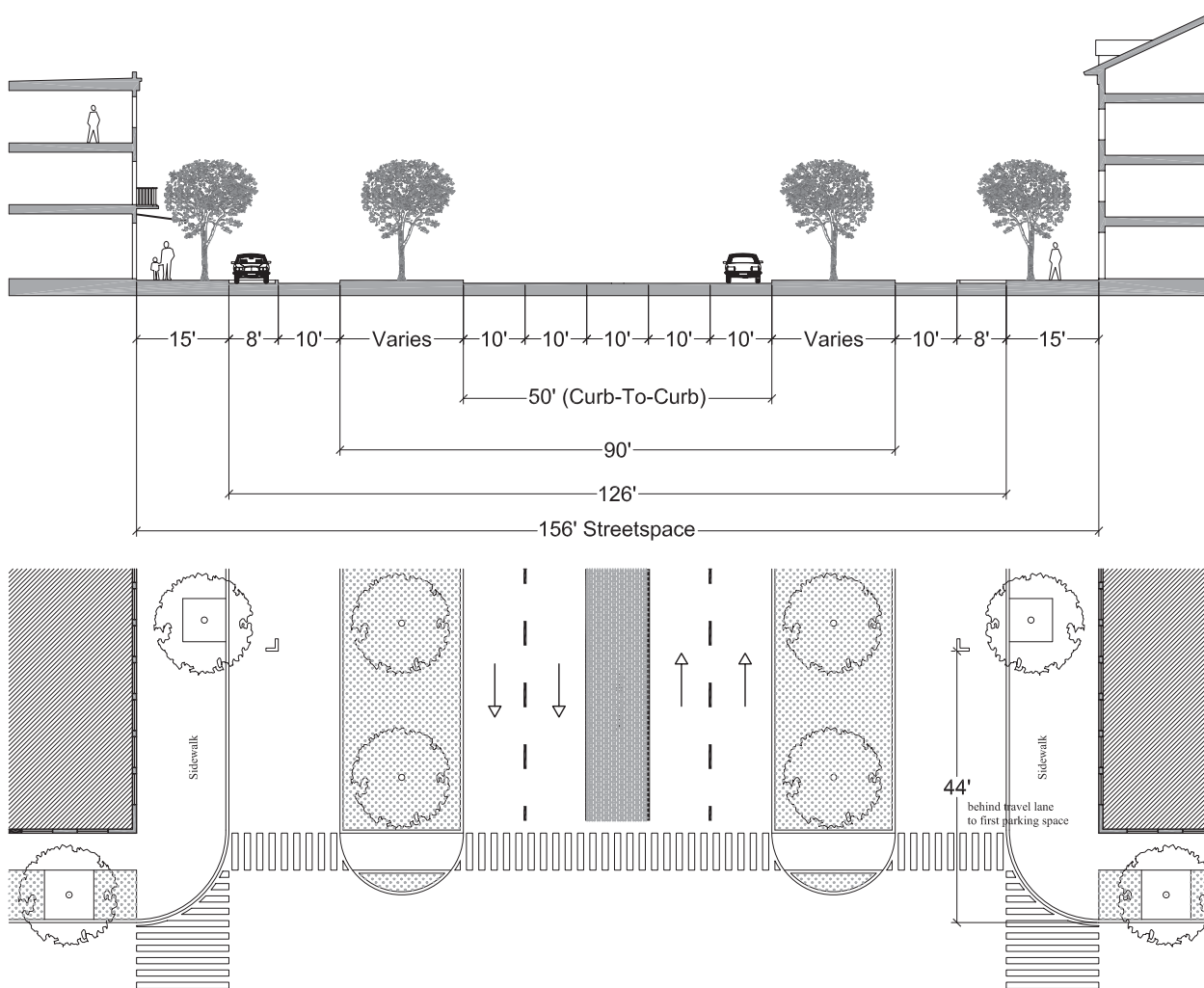


Figure 8: Street (ST) 50-126 Section Drawing

- Jermantown Road
- Main Street south
- Chain Bridge Road
- Lee Highway at Fairfax Circle
- Old Lee Highway at Fairfax Circle

This street section is also suggested for Lee Highway east of the Kamp Washington area and a portion of Fairfax Boulevard between Meredith and McLean Avenues.

Where greens are proposed in the walkable town centers, directional streets are proposed at each edge (shown in gold on Figure 5). These street sections include 15 foot sidewalks on the developed side, an 8 foot parallel parking lane, 10 foot travel lane and a curb/swale (PS 18-36; see Figure 10). This one-way street is limited to locations where it is separated from its pair by a park or large green.

Completing a Thoroughfare Network adjacent to Fairfax Boulevard

In addition to the design of the streets themselves, the street network as a whole must be constructed in a walkable fashion. To be walkable, the streets need short block faces (400'-500' maximum), narrower lane widths (10 foot maximum), and frequent intersections.

A more robust street network in the adjacent commercial areas will encourage use of parallel side streets and alleviate some traffic on Fairfax Boulevard. Several new parallel streets will increase the grid or network of thoroughfares surrounding Fairfax Boulevard to significantly improve local circulation.

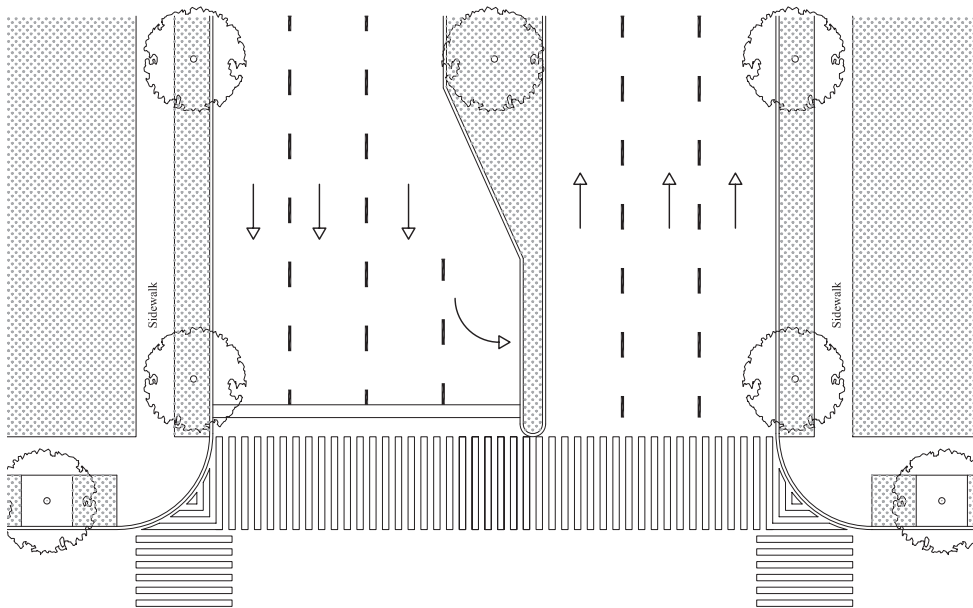
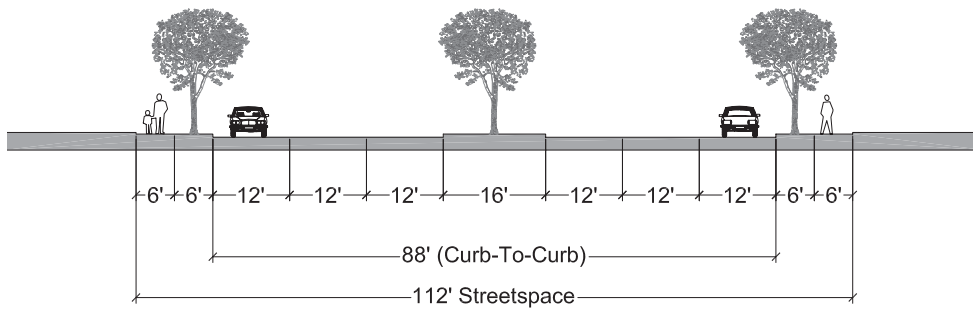


Figure 9: Road (RD) 88-112 Section Drawing

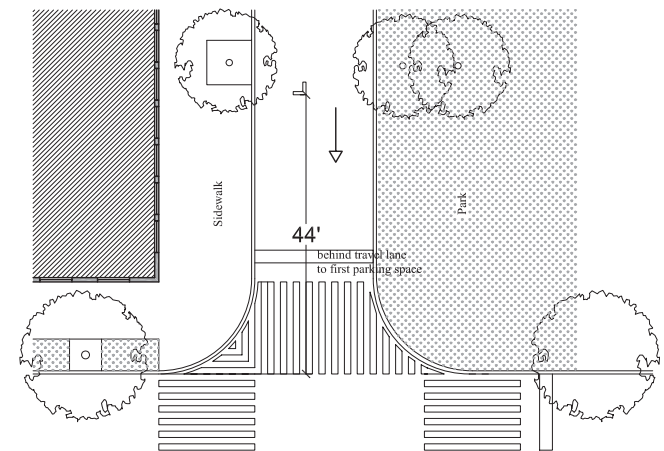
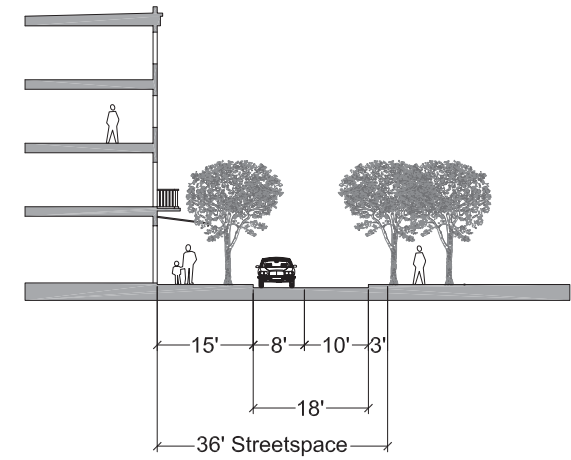


Figure 10: Park Street (PS) 18-36 Section Drawing

4. Improve the special intersections at the nodes

Although economic development and greater modal diversity are primary concerns of the transportation strategy, the continued ability of Fairfax Boulevard to carry existing and projected traffic is also a concern. Current land uses along Fairfax Boulevard do not facilitate the sharing of trips. In other words, most vehicular trips generated by a land use along Fairfax Boulevard are exclusive. Little opportunity exists for significant reductions in trip impact on the main thoroughfare (beyond frontage road use) by combining multiple stops during one trip. In multi-use, pedestrian scale developments, trips between given land uses can be accomplished via walking, biking, transit or driving without significantly impacting the major street system.

Since Fairfax Boulevard will offer a more walkable environment and mix of uses, there will be an increase in trips, but many of those trips will be shared internally among the uses, often without affecting movement on Fairfax Boulevard. Fairfax Boulevard's new design and land use structure will also accommodate increased usage of the Metrorail system for commuters from the area, as well as visitors.

To determine the relative traffic flow quality of existing traffic levels through the three main Fairfax Boulevard intersections (at Lee Highway, Chain Bridge Road and Fairfax Circle), HPE used both Sidra and Synchro (TrafficWare, Inc) traffic simulation programs. Sidra analyzes roundabout flows and Synchro estimates flow through signalized intersections.

Roundabouts were considered for these three intersections because they are pedestrian friendly due to their lower motor vehicle speed operations. Two

and three lane roundabouts operate at less than 25 mph when well designed. Crosswalks are placed behind the first queued vehicle, thus avoiding the pedestrian being out of view when drivers look left as they enter the roundabout. Exiting vehicles, still at lower speeds, can see pedestrians and, with appropriate enforcement, will stop to let them cross the exiting lanes also.

For the Fairfax Boulevard roundabout analysis, the primary effectiveness measure for traffic flow is intersection level of service (LOS). These are letter-grade measurements of how well the intersections function.

Kamp Washington

The intersection analysis for Fairfax Boulevard and Lee Highway (the Kamp Washington area) is summarized in Table 6. Intersection delay is measured in average seconds of delay per vehicle and queue length is in feet of average queue length per vehicle.

Alternative 1 shows that current conditions, with a widening to six lanes on Fairfax Boulevard, would operate at a LOS "F" overall, with LOS "F" for the westbound flow. A three lane roundabout was evaluated for this location, in Alternative 2, which improved LOS to "B" and significantly reduced delay and queue length.

Northfax

The intersection analysis for Fairfax Boulevard and Chain Bridge Road is summarized in Table 7. Intersection delay is measured in average seconds of delay per vehicle and queue length is in feet of average queue length per vehicle.

Alternative 1 shows that current conditions, with a widening to 6 lanes on Fairfax Boulevard, would

operate at LOS F overall, with LOS C for the westbound flow. The southbound queue from I-66 is quite long as with current conditions. Successively larger roundabouts were evaluated in Alternatives 2, 3 and 4. Alternative 4, a 3-lane roundabout, finally improved LOS to B and significantly reduced delay and queue length.

Fairfax Circle

The intersection analysis for Fairfax Boulevard and Old Lee Highway (at Fairfax Circle) is summarized in Table 8. Intersection delay is measured in average seconds of delay per vehicle and queue length is in feet of average queue length per vehicle.

Alternative 1 shows that current roundabout conditions, with a widening to six lanes on Fairfax Boulevard, would operate at a LOS "B" overall, with LOS "B" for the westbound flow. A three lane roundabout, without center through lanes, was evaluated for this location, in Alternative 2, which improved LOS to "A" and slightly reduced delay and queue length.

For each intersection, a full Synchro analysis report can be found in Appendix C for the existing condition analysis. A full Sidra report can also be found in Appendix C for the roundabout analyses.

Table 6: INTERSECTION ANALYSIS FOR FAIRFAX BOULEVARD AND LEE HIGHWAY (KAMP WASHINGTON)							
	Intersection LOS	Westbound LOS	Southbound LOS	Westbound Delay	Southbound Delay	Westbound Queue	Southbound Queue
1. Existing + 6L Blvd.	F	F	E	204	72	1153	741
2. 3L Roundabout w/ RT Lanes E and W w/ Dual LT Lanes on South leg	B	B	B	15	15	208	203

Table 7: INTERSECTION ANALYSIS FOR FAIRFAX BOULEVARD AND CHAIN BRIDGE ROAD (NORTHFAX)							
	Intersection LOS	Westbound LOS	Southbound LOS	Westbound Delay	Southbound Delay	Westbound Queue	Southbound Queue
1. Existing + 6L Blvd.	F	C	F	34	270	475	1404
2. 2L Roundabout	F	F	F	265	110	3880	1655
3. 2L Roundabout w/2 bypass lanes	F	F	F	86	295	1666	3273
4. 3L Roundabout w/4 bypass lanes	B	B	B	17	17	356	272

Table 8: INTERSECTION ANALYSIS FOR FAIRFAX BOULEVARD AND OLD LEE HIGHWAY (FAIRFAX CIRCLE)							
	Intersection LOS	Westbound LOS	Southbound LOS	Westbound Delay	Southbound Delay	Westbound Queue	Southbound Queue
1. Existing + 6L Blvd.	B	B	D	34	15	441*	363
2. 3L Roundabout	A	B	A	14	8	376	146

*Volume for 95th percentile queue is meters by upstream signal.

Intersection Recommendations

The Sidra and Synchro analyses illustrate that these intersections are operating at low levels of service, but can improve when redesigned, either as a new roundabout or as a reconfigured roundabout.

Though the analyses show that Kamp Washington and Northfax could improve the level of service for vehicular traffic through the development of a roundabout, HPE does not recommend a roundabout for these two intersections at this time because of urban design and right of way considerations. A proposed roundabout would prove more detrimental to the desired land use for the intersection than beneficial for moving vehicular traffic. Therefore, there are no recommended changes to the Kamp Washington and Northfax area intersections other than the design of the multi-way boulevard that narrows lane widths to 10 feet.

HPE does recommend that the Fairfax Circle roundabout be redesigned as a modern 3-lane roundabout without the direct street connection through the center. Evaluation of expected traffic levels and known importance of access to Metro north of the circle resulted in a renewed design of Fairfax Circle as a modern roundabout with 2 and 3 circulating lanes. Sidra analysis yields an acceptable LOS for this design shown in Table 8.

5. Rethink the way parking is handled

Parking has become the single greatest use of space in the urban landscape. The redesign of Fairfax Boulevard will affect parking in the following ways:

- Mitigate the demand for parking
- Reshape the way parking is used in the urban fabric
- Alter the way parking is provided and shared

Mitigate the Demand for Parking

The Fairfax Boulevard Master Plan assumes that the corridor will be highly successful and generate substantial investment, reinvestment, and demand for parking. The existing conventional pattern of each land use on its own parcel, surrounded by its own parking lot, requires enormous dedications of space to parking and hinders the effectiveness of public transportation and walkability. Transit patrons must cross large surface parking lots to reach a location, which reduces the attractiveness of transit and walkability. In this type of environment, driving from one location to another is the most logical choice for most shoppers. A “park once” approach, which allows access to multiple locations from a single parking space, is not viable under these conditions. Consequently, every customer requires a parking space at every single land use along the corridor.

Under the Master Plan design, which is based on a more urban and traditional land use pattern of buildings at the back of sidewalks and on-street parking, the “park once” concept is a reality. A customer can park once and access several different locations. In addition, transit becomes a more attractive option, and transit riders do not need parking spaces at all. Consequently, the redesign of Fairfax Boulevard will help to mitigate parking demand compared to the existing conditions.

Reshape the Way Parking Is Used in the Urban Fabric

Under the existing conditions, as in most of post-WWII America, parking is massed in large parking lots where vehicles are stored by their owners in between trips. While some parking lots are landscaped and provided with shade trees, parking lots in general are single-purpose facilities that only serve automobile drivers.

The redesigned Fairfax Boulevard, as shown in the Master Plan, recognizes the need for parking but also provides parking with an additional purpose – the shaping of the urban fabric. When parking is organized along a street as parallel or angle parking stalls, the automobiles actually provide structure and form to the street. Combined with shade trees, wide sidewalks, and attractive buildings built to the back of the sidewalk, on-street parking sends a message that an area is alive and well. Pedestrians are essentially told the place is safe and desirable, through the presence of the cars parked along the street. Rather than dividing urban space into seas of parking with islands of buildings, on-street parking unites urban space by bridging the street to the land uses. For this reason, on-street parking is a key component of walkability.

On-street parking will provide only a portion of the required parking spaces in a redesigned Fairfax Boulevard, but it provides much more than just vehicle storage. Additional vehicle storage must also be provided, as described below.

Alter the way parking is provided and shared between land uses

As described above, on-street parking will meet a portion of the demand for parking along Fairfax Boulevard, but additional parking will be needed. How much additional parking will be mitigated

by the ability to park once and use transit, as described above, but will also be mitigated by the ability to share parking between land uses. This concept is called “shared parking” and will be described further below. In addition, the City of Fairfax can implement paid parking standards to manage parking demand, as is also described below.

Shared Parking

Conventional/existing development patterns along Fairfax Boulevard today require separate parking lots for each land use. Even if land owner were willing to share parking lots, the distance between land uses is often too great to encourage walkability and customers would end up driving anyway. So, conventional parking standards require a certain number of parking spaces for each land use – x number of spaces per square foot, per number of tables, or per number of washing machines, for instance. These standards assume that each land use is stand-alone – i.e., that a customer doing laundry will require a parking space at the laun-

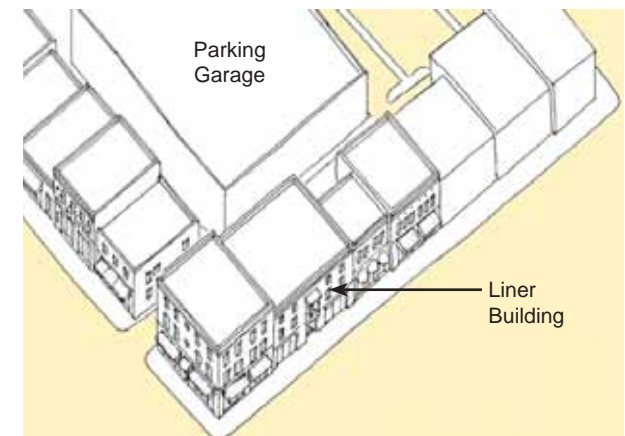


Figure 11: A liner building should be used to shield the blank façade of a large footprint building or parking garage from view of pedestrians. It must be deep enough to have habitable space, and have doors and windows that face the sidewalk.

dromat and will require another parking space at a restaurant if he decides to get a sandwich while his whites are in the dryer. So, the laundromat has a set of parking requirements, and the restaurant has an additional set. These assumptions are generally valid in a conventional, non-walkable location.

Shared parking, however, recognizes that in urban locations, such as the redesigned Fairfax Boulevard, with high levels of walkability and easy, attractive pedestrian access between land uses, large amounts of separate parking are not required for each land use. Instead, land uses may share parking. For example, an office building that is open during the day requires parking for its employees during business hours, but not during the evening when the office is closed. A dinner restaurant/club requires parking at night, but not during the day when the restaurant/club is closed. Under conventional parking demand, each land use would require its own parking supply, even if they were located adjacent to one another. Shared parking recognizes that the same parking lot can serve both uses with minimal amounts of overlap (there will probably be some demand for office parking at

night and restaurant parking during the day, if only for maintenance staff and management.)

The Urban Land Institute publishes a shared parking guide that can be used to estimate the level of shared parking availability for various mixes of land uses. In addition, New Urbanists utilize the SmartCode, which incorporates shared parking principles, to determine parking demand. Either approach will yield a better estimate of parking demand along Fairfax Boulevard than conventional parking standards, such as those promulgated by ITE (the Institute of Transportation Engineers, which produces excellent reference materials for conventional development.) As the corridor develops, the City should utilize these shared parking methodologies to estimate parking requirements. Using conventional standards would result in over-estimation of parking requirements.

Paid Parking

Shared parking arrangements will help match parking supply to the demand for parking generated in an urban context, but on-street parking will still need to be supplemented by additional

off-street parking. In a traditional urban context, off-street parking should be confined to the interior of a block and shielded from the street by liner buildings. Liner buildings are thin buildings that provide a store-front and street presence and are usually employed to block a view and provide an urban context along the street. Interior parking areas can be surface lots, or if demand requires, structured parking decks. In either case, paid parking may be used to help finance parking spaces and parking structures.

Parking management practices generally consider parking to be at capacity when 80% of available parking spaces are full. At this point (actually prior to this point), users of the parking spaces will complain about a lack of parking. If a parking survey indicates that parking is at 80% of capacity or higher, the recommended option is to implement paid parking. Under paid parking, users of the parking spaces pay a fee to park. The fee can be collected in a variety of ways, including meters, debit and credit cards, pass programs, smart cards, or parking attendants. The amount of the fee is adjusted to control the demand for parking and keep demand at about 80% of capacity.



Figure 12: Buildings located across parking lots are suboptimal for effective transit operations.



Figure 13: Buildings pulled up to the sidewalk promote walkability and improved transit service

As Fairfax Boulevard develops, the City will need to track the intensity of development and use shared-parking arrangements to the greatest extent possible. Ensuring good transit service and requiring on-street parking, consistent with the Master Plan, will keep parking demand as low as possible. The ULI shared-parking methodology or the New Urbanist/SmartCode parking standards can be used to estimate parking demand as new development comes online. Utilizing interior surface lots to supplement on-street parking, paid parking should be implemented with demand exceeds 80% of sup-

ply (or when this is projected to occur, for instance, if a block redevelops and several large land uses move it, such as a large corporation or retailer). At this point, structured parking becomes viable and may be provided for, either through negotiation with the developer, bonds, or other City financing mechanism.

The critical parking concepts to remember, regarding the Fairfax Boulevard corridor, are to let the urban form, including a mix of uses, on-street parking, and buildings built up to the street, help mitigate the demand for parking. Then use shared parking to accommodate the demand. And when available shared parking and on-street parking reach 80% of capacity (in either actuality or projected development), implement paid parking strategies to keep demand in the 80% range. These strategies will ensure that adequate parking always exists in the corridor, but that parking lots will not define the corridor or be the major land use in the area.

6. Enhance and increase transit opportunities

The Fairfax Boulevard corridor, as part of the general Washington, D.C. metro area, is comparatively well-served by public transportation. Rail transit is available at the Vienna/GMU Metrorail station, connected by local and regional bus service (CUE and Metrobus, respectively) throughout the study area.

Local Bus Service (CUE)

The City of Fairfax local bus service (called CUE) provides four local circulator routes anchored on the Vienna Metro Station and George Mason University. Service is provided every half-hour during the week and hourly on weekends. Four CUE routes run in two directions – two routes run clockwise and two run counterclockwise. University students and faculty/staff ride fare-free; cash fare is \$.75 or \$.50 for seniors and students. Real-time route and schedule information for CUE is provided on the Internet at www.nextbus.com.

Regional Bus Service (Metrobus)

Metrobus provides extensive regional bus service in the Washington, D.C. area. Routes 1C and 1Z directly serve the Fairfax Boulevard corridor and connect into the rest of the regional transit system and the Metro rail system (Figure 14).

Regional Rail Service (Metrorail)

Rail service is provided by WMATA (Washington Metro Area Transit Authority) through the Metro-rail system on the Orange Line at the Vienna/GMU station, located at the northeastern end of the Fairfax Boulevard corridor (Figure 15 is a portion of the Metrorail Map). Access to the Metro is provided by both CUE and Metrobus. In addition to bus service, this Metro station offers a carsharing program, 56 bike racks and 54 bike lockers. Car-sharing is an innovative membership program that allows members to rent cars for short errands or trips originating at the Metro station but not easily accomplished by transit.

CASE STUDY – ALEXANDRIA, VA

The City of Alexandria, VA, responded to complaints about parking availability in the Parker Gray neighborhood (adjacent to Old Town and the Braddock Road Metro Station) by conducting a parking survey. The survey indicated that on most streets, peak parking demand was less than 80% of capacity. Therefore, paid parking was not indicated for those locations. Some blocks, however, closer to high-intensity areas such as US 1 and the Metro station, did have over-capacity situations. On those blocks, increased use of shared parking and increased parking fees were recommended to match parking demand with parking supply. Using the 80% rule, the City was able to determine that parking complaints, which are common in urban areas, did not merit a major change in parking policy for most of the neighborhood and instead focus efforts on areas that did require help. As a rule, if no one is complaining about parking, in an urban setting, then there is likely too much parking available. If there are complaints, the 80% rule can be used to estimate the best response, whether the response is to provide additional free parking or to increase parking fees.



Figure 14: Metrobus Routes

Effects of Proposed Boulevard on Transit Service

The traditional town design of Fairfax Boulevard, with higher intensity development located back-of-curb along the street, is ideal for transit service. The multi-way boulevard design of Fairfax Boulevard will allow transit vehicles to provide front-door service more effectively than the existing, conventional strip-center development pattern, in which the building is located hundreds of feet from the street across a large parking lot. The side medians of the multi-way boulevard provide perfect locations for transit stops. Passengers alighting from the bus have only to cross the park-like median and the slow-moving side access street to reach the front door of a building. Experience with similar designs in other cities (Paris, Barcelona, and New York, for instance) indicates that this design works quite well for transit.

In addition to provided improved transit operations, the multi-way boulevard design offers exciting possibilities for future transit improvements. One original purpose of the planted median was the provision of street-car access. Should a Bus Rapid Transit or Light Rail system develop along this corridor, the side medians will provide additional right-of-way (ROW) that could be used to support a rail line.



Figure 15: Section of Metrorail System Map

Implementation of the Transportation Strategy

HPE suggests a two-phased approach to the redesign of Fairfax Boulevard into a multi-way boulevard.

The first phase will transition the existing boulevard into narrower travel lanes, while still providing the same four-lane configuration. During this phase, it is suggested that the 16' medians (approximate) along each side of the boulevard be expanded to 20', decreasing the travel lane width from 12' to 10'. As stated earlier, this will have the advantageous effect of slowing the free flow vehicular speeds for increased pedestrian comfort, while still accommodating similar levels of traffic flow. A 10 foot safety strip of rough textured pavement is designed for the pavement between opposing lanes to facilitate movement of larger than average motor vehicles. The safety strip transitions into a left turn auxiliary lane as needed. Frontage roads, where they currently exist along Fairfax Boulevard, will be enhanced and maintained.

The second phase will achieve the multi-way boulevard and provide detail to the frontage elements. During this phase, the frontage roads will be transformed into side access lanes. Utilizing existing land area, the roughly 18 foot frontage roads become an 8 foot parallel parking lane and a one-way 10 foot access lane with an 18' wide sidewalk with tree plantings. This will improve the area fronting the Boulevard's businesses and retailers by providing attractive parallel parking and sidewalks for pedestrian mobility, without detracting from their current frontage space. Streetscaping will also be finalized during this phase.

To the extent possible, other adjacent street sections should be constructed during both these phases, with the ultimate goal of completing the entire network when the Boulevard is completed.

Right of Way options for redesign of Fairfax Boulevard are varied and will require substantial focus and careful negotiation. They range from City/State purchase of all needed ROW up to the building faces of the new town centers; to an approach relying on easements to achieve the side access and parallel parking elements of the multi-way boulevard design.

Obviously, the latter approach is recommended. Considerable benefits will accrue to the adjacent property owners when the more favorable urban streetscape pattern emerges with pedestrians at the front of retail businesses. Parallel parking also helps retail and other commercial establishments. With these benefits, the adjacent property owners should be asked to dedicate access easements for the land at the boulevard edges, beyond that

already in government ownership. This land is limited now due to setbacks for landscaping and parking. The multi-way boulevard design would simply reshape this operation pattern to a more urban and more sustainable form. The benefit should equal the "cost" of the dedicated transportation easement. Without this arrangement, the boulevard would be much more expensive and its implementation may be significantly delayed.

Scheduling the redevelopment of land in each town center is the primary task at hand. Phase 1 boulevard resizing should occur first. Subsequent to this, the boulevard sections should be negotiated, designed and constructed. The creativity and care needed for these groundbreaking steps will be a significant measure of the success of Fairfax Boulevard's renaissance.



Fairfax Boulevard Illustrative Plan



economic analysis 6

Fairfax Boulevard is an example of the hopeful development trends begun in the dawn of the auto age. Built in the 1930's as a bypass road, over time the route filled with development oriented to passing traffic. The land use patterns were developed in the mid-century fashion of highway strip-commercial shopping center, serving new, adjacent suburban developments. As Fairfax Boulevard grew it became more central to the community due to shifting development patterns. By the 1970's the boulevard was mostly built-out and has seen only incremental change since then. As development increases outside of the City limits, however, Fairfax Boulevard has increasingly become congested with pass through traffic. Countywide, new retail and service offerings have taken a toll on businesses along the corridor. Fairfax Boulevard, an active economic resource for the City of Fairfax, has now considered to be a congested arterial with a business environment in need of rejuvenation.

MARKET COMPETITION

Fairfax County is growing quickly. New development is locating in areas that either provide a cluster of similar uses or easy access to customers and employees. Because of this external competition, businesses along Fairfax Boulevard have been losing market share. Without coordinated revitalization efforts, the local business community fears that this decline will continue.

The causes for this decline are directly related to the perceived economic utility of the corridor to residents and pass through traffic. Economic utility is simply how useful people find the Boulevard commercial district compared to other competitive developments. The concept of utility balances access time against choices available upon arrival. Once people have committed to getting into traf-

fic, the larger the perceived number of goods and services contained within one trip the higher the utility. This theory of utility is the basis for the creation of large shopping centers. The difficulty for the centers along Fairfax Boulevard is that they currently do not have the space to accommodate a wide range of choice because of parcel size or low density of land use.

Another factor is the qualitative experience. The newer offerings in the retail marketplace offer what is termed "sense of place." Retail corporations have discovered that while consumers still spend time at malls¹, the mall format itself has been changing from traditional enclosed malls — the focus is now on providing amenity rich developments. Some are in the form of what are called lifestyle centers, such as Fairfax Corner, or in successful "main street" style developments, such as Bethesda Row in Bethesda, Maryland. Amenity rich development includes walkable space, entertainment and restaurants to enliven the area, and residential space to support sales and encourage vitality by a captured base of on-site pedestrians. Typically there is a spine that replicates a main street where customers can walk from offering to offering in an outdoor environment. This type of development is arranged to provide the maximum number of people on sidewalks, creating an experience energized by human interaction.

Given the market conditions, what can Fairfax Boulevard do to compete? First, according to the theory of utility (balancing travel time against choice) the closer people are to a source that satisfies their needs, the more likely they are to shop there. Second, wide choice relies upon the number of households that can be attracted so to provide sufficient spending to support the businesses.

¹ ICSC White Paper, The Facts on Regional Malls, 2006.



Existing Conditions on the Boulevard

Third, there is the creation of the environment for human interaction — a pedestrian-friendly place where people feel comfortable and safe at all hours where they are likely to meet friends and the human scale allows them to become known and to know those with whom they are interacting.

The Master Plan addresses these economic issues by rethinking the structure of the Boulevard itself (see Chapter 5, Transportation), by creating walkable places with a mix of uses that can have relatively high utility and are rich in amenities, and by adding housing to the development mix to assure that there will be high customer capture and a resident population to enliven streets and gathering places. These elements are mutually self-supporting and, other than changing the boulevard itself, cannot be accomplished separately without adding traffic and congestion to an already difficult auto oriented environment.

UNDERSTANDING THE CURRENT SITUATION

For any business area to succeed, it has to address the stated needs of its owners, businesses, and customers—the people who are conducting business in the marketplace. To understand the needs and desires of local market participants, Urban Advisors conducted preliminary interviews with stakeholders. During the March 2007 charrette Urban Advisors met and interviewed developers, landowners, business owners, neighborhood residents, the Mayor, City Council members, Planning Commissioners, Fairfax Boulevard Partnership representatives, Economic Development Authority leaders, and City staff to better understand local economic goals with regard to the redevelopment of the Boulevard. From this input it was learned that there is a desire for change— business owners, landowners, City leaders, and community members outlined a very different environment than the one existing on Fairfax Boulevard today. Business owners want more foot traffic and higher revenues. Landowners wish for a better use of the resources represented by their investment. The community at large wants a more attractive and walkable corridor, better retail and services in mixed-use development, and provision for open space along the corridor that reflects the best qualities of Fairfax. All stakeholders stressed the importance of the Boulevard to City tax revenues, and the consequent need to preserve and improve business viability to maintain the excellent services provided by the City.

Part of the necessity for change is the age and quality of the building stock available in the city. What has been built is what is called economically obsolete — that is, it no longer adequately addresses the market for which it was created.

As Table 1 illustrates, the median age of structures is from 43 to 25 years old. Many of these structures were built to respond to markets that have changed radically over the lifespan of these buildings. The

difficulty for the city is that other areas outside the city have been responding to markets with newer offerings in different site configurations that strive to satisfy current market demands. This does not necessarily mean a need for new buildings, but it does mean that old-fashioned strip developments and suburban office styles (as opposed to significant historic buildings) are likely to suffer in competition. This also does not mean that the City cannot respond to these market demands; given the economic development capacity of the city, it highlights the need for pro-active city leadership in redevelopment to capture new markets.

In regards to City leadership, many stakeholders expressed the concern that the City regulatory system is a barrier to development. There is the perception that every development application is a political process that can founder on the complaints of a very few dissenting residents. Approval is often uncertain and adds great risk for those who wish to improve their property. The Fairfax Boulevard Master Plan process was designed to address these issues directly by designing in public. The plan was produced with public input so that

Table 1: MEDIAN YEAR BUILT BY BUILDING USE

City of Fairfax	Number of Buildings With Known Age	Median Year Built
Retail	49	1964
Restaurant	27	1973
Office	36	1982

Note: Use codes correspond to City of Fairfax Real Estate Records. Table includes only those properties for which the year built is on record. *Restaurant* includes use codes for restaurant and fast food restaurant. *Retail* includes use codes for retail and shopping center. *Office* includes use codes for office and commercial condominium. Source: City of Fairfax

those following the plan will be doing what the City Council and the residents of Fairfax desire for the future of the Boulevard. In addition, a new form-based code for the Boulevard will ensure that what is developed is in concert with the aspirations of the community.

ORGANIZATIONAL CAPACITY FOR CHANGE

Many cities that wish to revitalize areas perceived as lagging have few resources to pursue economic development. This is not true in Fairfax. One of the great advantages of the City of Fairfax is its organizational capacity for supporting change. The city has the following structure addressed to economic development:

City Council

The elected governing body of the City, the City Council is responsible for approving all planning, development, and policy matters. City Council is composed of six members elected at-large to concurrent two-year terms. The Mayor, also elected to a two-year term, presides over City Council meetings, and is responsible for casting a tie-breaking vote if necessary. The City Council is responsible for all legislative actions within the City, including land use actions, property acquisition, special use permits, procurement, and changes to the City Code and Comprehensive Plan.

Planning Commission

The seven-member appointed Planning Commission advises the City Council on planning and development issues. Members are appointed by the City Council for four-year terms and serve in an advisory capacity to the City Council and ensures that development within the City occurs according to adopted plans and guidelines. The Commission reviews and provides recommendations on matters

requiring land use actions, such as applications for zoning changes, proposed subdivisions, zoning text amendments, and changes to the City's Comprehensive Plan.

Economic Development Authority

The Economic Development Authority (EDA) is the principal body responsible for promoting economic development within the City and for marketing the City's commercial and industrial areas. Appointed for staggered four-year terms, the EDA's seven members are charged with expanding the City's tax base by instituting economic development initiatives, attracting quality development projects and promoting the City's development opportunities. The Authority may also issue industrial revenue bonds for development projects.

Fairfax Boulevard Partnership

For many years, the City has sought to encourage the revitalization of what is now the Fairfax Boulevard Corridor. Revitalization, it has been hoped, will enable the City to better maintain economic competitiveness in the region's retail and office marketplaces. This encouragement received a major boost in 2005 when the Fairfax City Council approved the creation of a Business Improvement District (BID) for the area.

Business Improvement Districts have been established in communities nationwide to provide specialized services for a specific area within a given jurisdiction. These services can include infrastructure improvements, marketing and promotional programs, and other activities that are above and beyond what a local government typically can provide. To pay for these services, an increment is added to real estate tax to bills for properties within a defined area. In Virginia, the tax funds collected by a BID must be spent on improvements

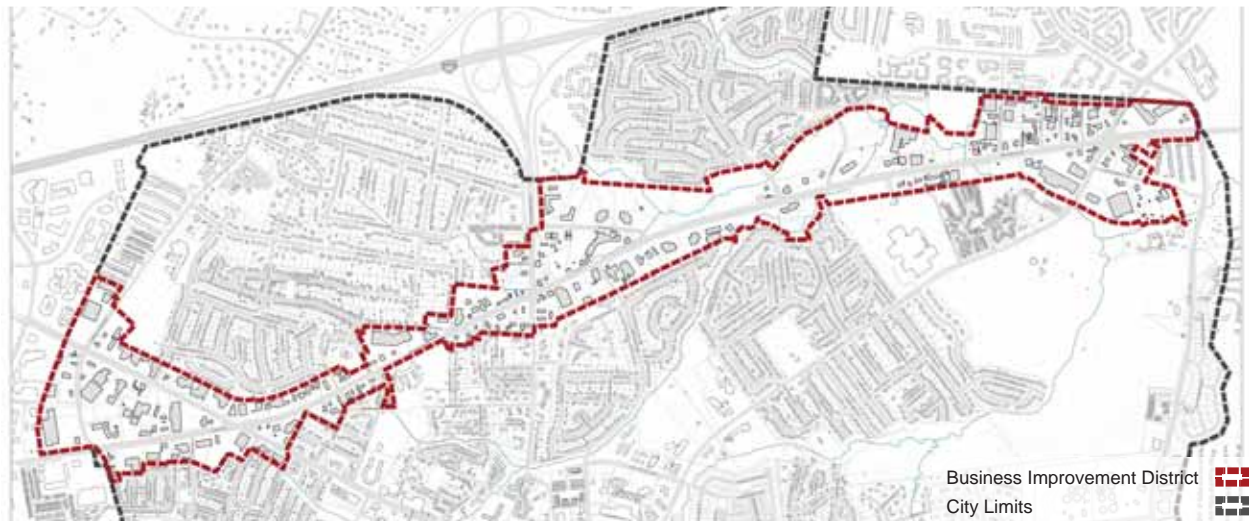
or services entirely within the BID's service area (Code of Virginia, §15.2-2403).

For Fairfax Boulevard, a BID was envisioned as a method to create a dedicated organization – managed by local property owners and businesspeople – that may focus exclusively on ways to improve the appearance and performance of the City's business boulevard.

Named the Fairfax Boulevard Partnership, the BID is a public/private body created to promote revitalization and improve the aesthetics and marketability of the entire Boulevard. The Partnership represents a major step forward in the revitalization process, not just because of its formation, but also because of its funding. Receiving revenue of six cents per \$100 of assessed value among properties within its boundaries, the Partnership is assured of an income stream that can help to accomplish many of the organization's goals.

The Partnership is managed by a Board of Directors consisting of nineteen members – nine elected property owners, nine elected business owners, and a Chairman appointed by the Fairfax City Council. Over time, the Partnership will concentrate efforts on improving the business atmosphere by creating and implementing guiding principles such as this Master Plan, marketing the Boulevard implementing streetscape improvements, and other endeavors that would benefit Fairfax Boulevard.

Based upon the ability to streamline approvals and offer funding as necessary for economic development activities in the City and in the Fairfax Boulevard Partnership, the capacity exists for producing meaningful change on the corridor. In the section on implementation, a list of actions for public private initiatives is offered for consideration. Unlike many cities, the structure is already in place to pursue these efforts.



Fairfax Boulevard Business Improvement District

EMERGING NATIONAL RETAIL AND REDEVELOPMENT TRENDS

Redevelopment of ailing commercial districts and neighborhoods has been taking place across the nation. Redevelopment has proceeded through five strategies:

1. the creation or enhancement of arts districts;
2. the creation of housing in or near commercial areas;
3. destination retail main street areas with entertainment;
4. new office and retail/mixed-use districts; and
5. new open space amenities.

In common with all of the strategies is the concept of “place making” or creating a critical mass of change that can alter local perceptions of the area to be redeveloped. This concept is applicable to the redevelopment efforts in Fairfax, as are the lessons from each strategy.

1. Arts and Redevelopment

The Fairfax Boulevard corridor is well known but lacks cultural attractions. This is important because the arts are now perceived to be a significant means for encouraging the public to visit and use businesses adjoining arts facilities. The reason for looking at the arts as a generator of economic potential is that arts districts or places with art draw people on a regular basis and provide foot traffic for local restaurants, cafes, and retail businesses. In Denver, according to the Urban Land Institute, the city's cultural/arts district drew 7.9 million visitors in 1997, more visitors than attended Broncos, Nuggets, Rockies, and Avalanche games combined. Art is seen as an amenity that enhances quality of life and yields a perception of quality to an area. The arts are also seen as an amenity that draws new residential and office development. For redevelopment along the Boulevard it is suggested that there be a public art policy to encourage installation facilities as the corridor changes.

2. Urban Housing

Providing attractive urban housing in mixed-use developments is another strategy occurring nationally that is applicable to Fairfax. The addition of medium to high-density housing is an effective strategy for providing a base of consumer spending within walking distance of restaurants, retail, and services. It is also used in combination with office and employment centers to provide units near work for residents, lowering commutes and producing efficient shared parking arrangements.

According to the American Housing Survey by the Bureau of the Census, urban housing is being purchased by upper-income households, usually with two persons per household or fewer. These households are typically between 25 and 35 or over 45 years of age, and include a high percentage of households (as high as 50 percent) of females living alone. As a large number of households is in the age range over 45, they have built equity that allows the purchase of high quality units. This type of development is dependent upon high amenity value: people choose to be in the proximity of arts facilities, urban-style retail and services, nearby work locations, active entertainment areas that include restaurants, a walkable environment that has high levels of evening use, and access to transit.

People are willing to pay for the freedom and excitement of urban living. Fairfax Boulevard, in its current configuration, does not have the necessary characteristics to sustain this sort of housing. The Master Plan is aimed at providing the amenities for which people trade larger, suburban style development. Development of this sort requires a combination of housing with an amenity-rich environment that has the critical mass to create its own sense of place.



Arts & Redevelopment: The historical Uptown Theater in Cleveland Park, Washington, DC is a regional draw for movie lovers.



Urban Housing: The multi-family housing in Clarendon are within walking distance of restaurants and retail.



Mixed-use District: Buildings in Old Town Alexandria offer the opportunity to combine uses within single structures.

3. Creating Retail Destinations

The Master Plan calls for creating or enhancing the retail destinations at the three centers. Destination retail/entertainment developments create a pedestrian environment reached by automobile from the region and accessible to pedestrians from the local market. They are a variation of a typical mall, but include entertainment uses to create an evening hours draw for customers. These centers range in size from 70,000 square feet to over 600,000 square feet². At the lower end of the scale, they include community amenities such as public plazas that are used for public functions including parades, high school graduations and even weddings. Larger developments typically include multiplex theaters along with nightclubs and restaurants.

These destinations are dependent upon strong retail spending demographics and appeal to the need for public facilities and gathering places. This trend has been taken up by the major retailing investment trusts because of its ability to draw from a wide radius. Federal Realty is actively pursuing the creation of destination “Main Street” style development because of the perceived public interest in authentic³, public retail districts. These retail districts may be anchored by smaller versions of national chain stores but also contain local unique businesses. The inclusion of long-standing local businesses adds a quality to the retail mix that cannot be duplicated elsewhere.

² Plaza Del Mar (Del Mar, California) has approximately 70,000 square feet of retail over structured parking. The project is located along State Highway 1. The center of the development is a platform that is used as a pedestrian plaza. It was so successful that the developer sold a one-third share three years after development for more than his initial equity in the entire project.

³ By “authentic” it is meant a district that has public access and amenities as opposed to the closed commercial environment provided by malls.

Successful retail destination development relies upon the creation of a sense of community, with attractive pedestrian ways, public space and plazas, outdoor café seating, distinct façade design for each storefront and a mix of local businesses and chain anchors. They have more restaurants than is typical, along with higher proportions of leisure activity retail such as bookstores, electronics and video and children’s stores. These developments have been done with and without structured parking. According to the Urban Land Institute, well-planned retail destination centers draw from a radius of 30 miles despite their small size, in comparison to the typical 15-mile market radius for a regional mall.

Financing for destination retail can be more complicated than a standard development because the projects themselves tend to involve higher up-front costs for infrastructure and amenities. Parking cost can be a particular problem. If structured parking becomes necessary to assure the ability to assure access to support sales and a wider choice of retail businesses at one location, costs can rise dramatically.

Parking is an issue for any type of retail development. Destination developments in city centers rely in part on adjoining parking that is used by office workers during the day, and thus the project does not need to provide all of its parking as part of the development. Creating a parking management strategy for Fairfax Boulevard will go far in enabling retail destinations. The City has already been pro-active on the issue of parking—what is necessary is carefully choosing locations and developing a management strategy that will help implement the Master Plan.

4. Mixed-Use on the Boulevard

Mixed-use development is the juxtaposition of different land uses in a single building or on a single site in a way that is hoped to be mutually beneficial to each use, and to the surrounding community. Mixed-use can be horizontal or vertical. Horizontal mixed-use is the combination of different uses next to each other. Vertical mixed-use is the combination of uses within single structures, such as the original structures lining Chain Bridge Road in Old Town Fairfax. Mixed-use projects need not be high-rise development; they can be accomplished at scales appropriate to their surrounding context.

Mixed-use often offers the opportunity to provide a transition between busy streets and adjacent neighborhoods. Mixed-use development where retail, office and housing are combined either vertically or horizontally is feasible where there is a market for retail and an unsatisfied demand for urban housing. Mixed-use development on corridors offers the opportunity to create housing and associated services without disrupting the fabric of local neighborhoods. It can also offer an opportunity to create ownership opportunities for one and two person households within a reasonable price range.

Because Fairfax Boulevard has been a major thoroughfare for the region, not just for the local market, it has the traffic and access that could allow destination retail centers and high-quality mixed-use development. Reconfiguring the boulevard to create a better pedestrian environment will allow the creation of these destinations. The Master Plan recommends three mixed-use retail centers along Fairfax Boulevard. Successful mixed-use areas tend to:

- be comprised of shops clustered in a walkable distance of 800 to 1,200 linear feet;
- have reasonable crossing distances for pedestrians (usually less than 60 feet) so that streets cease to be barriers;
- have retail on both sides of the street;
- have enough housing or employment within a five minute drive to yield up to 60 percent of the needed support for retail and services;
- have continuous building frontage without breaks for large parking lots or drive-through facilities; and,
- have a mix of retail and services that foster activity at night as well as during the day.

While for many cities mixed-use development is a new trend, Fairfax has a history in its historic Old Town of successful development incorporating retail and office uses together in high quality structures. Considering mixed-use development on Fairfax Boulevard could be a way to reinforce the historic character of past development patterns and emphasize the character and identity of Fairfax.

Many mixed-use projects combine residential with retail or employment uses. The factors that drive residential mixed-use are proximity to amenities, convenience in commuting, and access to services. As residential density rises, residents trade private outdoor open space for public amenities such as restaurants, retail and services, and employment within walking distance. Amenities make the residential units easier to rent or sell, and the proximity of customers supports the commercial, retail, and services. The additional local retail and services can be a benefit to the surrounding neighborhoods.

Successful mixed-use depends on development team experience (including the experience of the contractors available), financial capability, careful market assessment of each product, realistic financial assessment during the project concept phase, a supportive regulatory environment, and a supportive neighborhood.

Fairfax has the developer capacity to facilitate mixed-use projects, but a stumbling block is the current land development regulations. A supportive regulatory environment must be in place for mixed-use to succeed. One key element of the form-based code proposed for the Boulevard is flexibility that allows developers to respond to the market while maintaining the intent of mixed-use — to produce a high-amenity, livable urban environment. Part of that environment of livability is maintained through careful physical design to achieve compatibility with established neighborhoods and to mitigate the effects of higher intensity development.

The proposed code offers the flexibility needed to allow developers to respond to the market, and easily understandable design direction to assure compatibility with surrounding land uses. By offering clear requirements and expedited approvals, the code will allow the market to respond to opportunities quickly, unleashing the ability of developers to assist the City in its process of change.



The Plan for Northfax recommends a mixed-use neighborhood, including housing, offices, green spaces, and civic uses.

Vertical residential/commercial mixed-use development does appeal to a segment of the market. Even so, pioneering projects may require incentives, either regulatory or financial to lower *perceived* risk. On the other hand, mixed-use retail and office is a more-or-less standard product in Fairfax. Public-private partnerships between the City and the Fairfax Boulevard Partnership can leverage economic development funding mechanisms to help provide needed credit enhancements for pioneering projects.

Office employment is one of the primary components of a healthy local economy and helps to support hotels, retail, and restaurants in the area. Office development has been used in conjunction

with all of the types of redevelopment outlined. New office users are looking for amenities along with an aggregation of businesses of their type. In redevelopment, office is primarily used as a component of mixed-use retail projects but is a vital part of the mix. Retail businesses need ground floor space, so office can help to intensify land use and economic feasibility by making upper floors useful. At the same time, office development can be balanced with what is termed “24-hour” uses (movie theaters, restaurants, late-night cafes, shops, and bookstores with long hours) because the parking can be shared after office tenants leave for the day.

The mix of office and residential uses seeks to capitalize the cost of commute times by employees. This means that on Fairfax Boulevard, the juxtaposition of new housing opportunities in mixed-use projects with office can offer an opportunity to capture new business and employment for the City.

According to the Urban Land Institute (ULI), the increasing use of computers and technology and their effect on all office users has resulted in different requirements for office than in the past. Office users now need wiring and mechanical systems far more extensive than those found in older buildings, including⁴:

- wiring for local area networks,
- cable networks,
- satellite communications,
- wide area networks,
- high-quality electrical supplies with filtered current and surge protection, and
- enough electrical outlets to allow the free movement of partitions and office groups.

The needs of modern users dictate either renovation of existing space or development of new space. Typical floor plates to allow open offices are 10,000 square feet of usable area, but smaller sizes have been seen in areas supporting start-up businesses. Renovation of existing buildings depends upon floor-to-floor heights, the cost of, and ability, to retrofit mechanical systems, the size of structural bays on each floor, and other factors that must be evaluated for each building.

The need for flexibility and for extensive electrical system requirements applies to back-office uses as well as tech businesses and start-ups. Back office uses are the sort of administrative work necessary to keep a business running (including data processing and other operations functions) but not part of the functions of a headquarters office. Back-office processing of data and administrative work relies on electronic connections to distant headquarters. Headquarter locations are also sometimes chosen by managing executives (Microsoft in Redmond, WA for instance).



Mixed-use development would offer an opportunity to capture new business and employment for the City.

Another aspect of the changing office market is that tenants are looking for nearby amenities. In its 1999 report on office trends, ULI noted that new office users wanted access to restaurants, cafes that may be open late, banks or ATM facilities, and an attractive location. For this reason, there have been developers successfully locating new office in mixed-use projects that create a lively retail environment at the same time. The desire to be adjacent to amenities indicates a willingness to shift to “cool” urban locations that incorporate these amenities.

Given research on comparable office markets, much of the building stock on Fairfax Boulevard built before 1990 is likely to be functionally obsolete in light of the needs of modern users. As part of an economic development plan, an inventory of buildings and their characteristics should be undertaken to determine the means and cost to bring them up to date, if the building is of sufficient

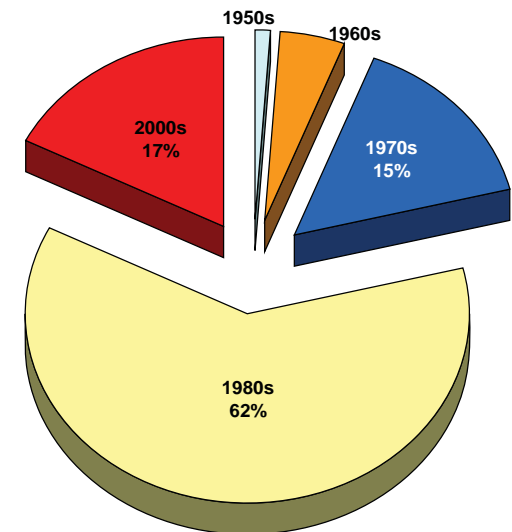


Chart 1: Office Square Footage in Corridor by Year Built
Source: City of Fairfax.

⁴ Peiser, Richard, and Mouchly, Ehud. “The Impact of Technology,” Urban Land Tech Trends Supplement, October 1999.

quality and fits into the new guidelines for planned redevelopment. Poor quality buildings that are obsolete, on sites that are typically suburban (wide frontages with deep setbacks), should be offered planning assistance to redevelop the site to higher and better use so that the owners may participate in the financial gains from redevelopment on the Boulevard.

5. Open Space Improvements

Because of their beneficial economic impact, parks and open space should be planned as part of the structure of the renewed Fairfax Boulevard. Park and open space amenities can help act as a catalyst for positive change in urban environments. A historical example is Central Park in New York City where real estate values in the area around the park increased by nine times after its construction. Parks and open space also act as a magnet for visitors and increase positive perceptions of the urban areas in which they are located. Large developers such as the Rouse Corporation have successfully included green space in their developments to encourage visits and increase foot traffic.

Well-conceived parks and open space are a positive externality and confer value on the properties surrounding them. Proximity to attractive natural features or panoramic views is acknowledged as a factor in the value of housing units. For the reasons above, parks are included in the Master Plan as an integral part of the economic strategy for implementation.

ECONOMIC STRATEGY FOR THE BOULEVARD: THE IMPORTANCE OF PLACE

The future of real estate is about the quality of place. Cities as locations increasingly compete not only on access to markets and employees, but also on the community amenities that create places where people *want* to live and work. Such amenities include everything from community green space to the quality and attractiveness of housing stock to the local retail and services available. Creating high quality-of-life environments is not only attractive to residents, but also to retailers who appreciate that shoppers tend to stay longer and employers who are more competitive in the battle for labor by locating in places employees (people) *like* to be. Such synergies benefit everyone, including the city revenue office.

While there is a robust and expanding economy in the region, Fairfax Boulevard has not benefited proportionately. It must be emphasized that the option to do nothing on Fairfax Boulevard is not a choice, but is rather a decision to abandon the local business community to market forces beyond their control, market forces that have been producing decline on the corridor. Unchecked, this decline

will continue. With this in mind, the following discussion on markets is intended to illustrate what could be feasible if actions are taken to create a competitive environment for development.

The Corridor and Old Town

By extending the character of Old Town Fairfax to the corridor it might be argued that the corridor will be in competition with planned development in Old Town. To some extent this would be true if the plan did address the connections and wayfinding from the corridor to Old Town. A revitalized corridor will have more residents, more visitors that are interested in Fairfax as a destination, and more local employees and employers. If connections to Old Town are made more explicit, the corridor should act as an enhanced calling card to introduce non-residents to the City of Fairfax, giving them a great first impression that is in keeping with the existing quality of Old Town.

To assure that development on the corridor has the least impact on existing local demand for Old Town Fairfax, residential and employment components



The proposed green network: Continuous pedestrian trails are provided throughout the plan to improve pedestrian connections between parks and open spaces.

have been added that are expected to draw new residents and users to the area. The particular market segments targeted are market segments that have not been well addressed in the corridor or in many places in the region for that matter. It is even possible that by bringing them to the corridor, the fact that they will now be in Fairfax may mean an increase in business for Old Town.

The Three Important Nodes

Based upon expected economic changes in the next five years, the most changes in form and intensity are expected at the three centers. There is not enough market demand to support mixed-use everywhere on the corridor, but there is enough to support such development at Kamp Washington, Northfax, and Fairfax Circle. For this reason, the Master Plan has a lower intensity of development in the connector areas between the centers. In the East Connector, future open space purchases are contemplated that will add to the value of local homes and assure the character of the area. In the West Connector the plan shows a slow change to more urban building styles.

EMPLOYMENT: THE RETURN TO AN URBAN SETTING

Employment location trends over the last decade in the Washington, D.C metropolitan region have gone in two directions. The first trend was the shift of large offices to locate (or relocate) in what are essentially exurban campuses such as those found on Maryland's 270 corridor or Tysons Corner in Fairfax County. This trend provided companies with secure buildings closer to a suburban workforce.

The second, and newer, trend is the reversal of the exurban trend, particularly for knowledge and professional service companies. The new favored strategy to attract and keep employees for these sectors has been to locate in traditional downtowns and walkable centers that offer amenities.

As the nature of business changes, attracting highly educated, talented, creative workers has become a growing challenge. Firms are successfully using location, lifestyle, and local housing choice to compete in the market for labor. Locations with these attributes have been particularly attractive to small businesses and startups, which often do not require



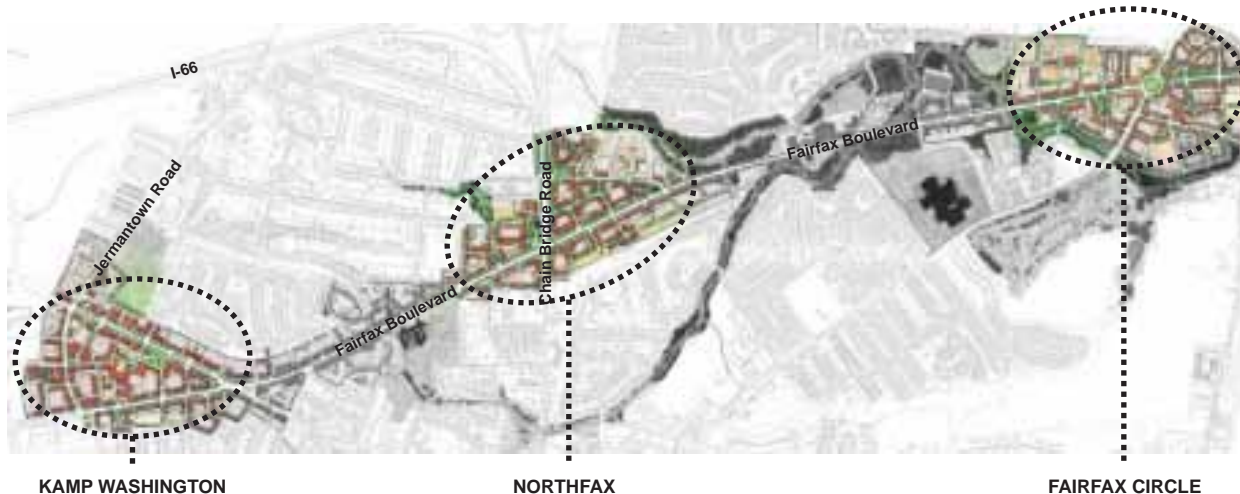
Suburban development: Familiar office park setting, separated from amenities



Traditional development: Georgetown offers amenities within walking distance.



Recent development: Bethesda Row's offices with amenities



the standard plate sizes of office park models, but need flexible space to expand. For example, in cities that provide these amenities this has enabled warehouse districts to reinvent themselves as technology centers by ensuring high-speed data connections and renovated space (note: not Class A with walnut boardroom trim) with modern power supplies and open floor plans.

Small business is important for producing vital employment sectors: in the 1990's small businesses accounted for two-thirds of all job creation, two-thirds of business growth, and over half of business innovation⁵. Applied to ten-year employment projections for Fairfax County, new small businesses seeking such locations could require as much as nine million square feet of space over the next ten years⁶.

Fairfax is well located to respond to these markets if it is pro-active. A redeveloped corridor could provide office space and the amenities desired along with residential space for employees and business owners. Given its place in the center of a burgeoning business services and technology employment region, incentives often used by other cities are less of a necessity than the creation of the environment that these businesses are seeking. This built-in advantage has a time limit, however—others are noticing and responding to these market opportunities.

Trends in Fairfax County reflect national trends in employment: a declining manufacturing sector, led by growth in professional services, health and education. Projections from the Metropolitan Washington Council of Governments expect that em-

ployment growth in Northern Virginia will outpace the Maryland suburbs and the District of Columbia, and continue to be dominated by jobs in services. Although the City of Fairfax is projected to capture only approximately 3% of the county employment growth to 2015, providing amenities may create a much larger demand for offices and employment space. The City's submarket currently represents about 9% of the county. Using this proportion of projected growth would give Fairfax Boulevard the opportunity to support 950,000 square feet of employment space in the next ten years.

RETAIL: COMPETING IN THE REGIONAL MARKET

The situation for retail on Fairfax Boulevard is complicated. The current stock is aging auto-oriented strip centers from an era that does not reflect the current demographic profile of the city and is being out-competed by centers that do recognize the new preferences. Most of the retail on Fairfax Boulevard is from an era of smooth traffic flow when people had different expectations of retail destinations.

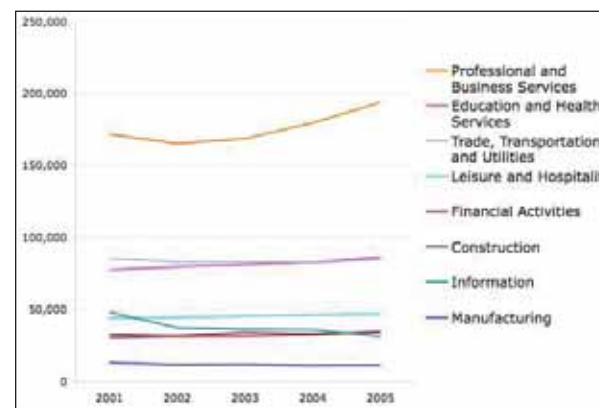


Chart 2: Trends of employment in Fairfax County
Source: Virginia Employment Commission & Urban Advisors Ltd.

As discussed earlier, people are now more likely to shop at destinations with high economic utility and a sense of place—development that has public space, amenities and unique offerings. The current building stock was created prior to these market preferences and much of it is now functionally and economically obsolete in today's market.

To understand the retail climate for change, Urban Advisors looked at drive time studies showing change in population and spending for each of the three nodes, and then assessed capture in relation to existing adjoining retail offerings. At one end of the corridor, Kamp Washington finds itself in competition with two major malls within a two-mile radius. At the other end, Fairfax Circle is in competition with new development at the Vienna metro location. Northfax, at the center of the corridor is in a better position for market capture if the offerings and environment can be improved.

While Fairfax does have competition, area growth within and near the corridor indicates a robust future market for various types of retail and services (see Chart 4).

A conservative estimate of demand for the Kamp Washington location indicates support for 75,000 square feet of additional retail space in five years; a small difference, but enough to catalyze change in a mixed-use development. Fairfax Circle, while constrained by difficult parcel patterns could, however, over five years support 137,000 additional square feet of retail.

Northfax has the most promise to become a successful retail and community center in the short term. Projected growth and increased capture in the trade area alone over five years will support 500,000 to 600,000 square feet of new retail uses;

⁵ (David Birch, Cogenics)

⁶ Based upon Metro Washington, D.C. Council of Government estimates using information from David Birch of Cogenics.

enough to support a major new retail development. To make these locations attractive and successful for retailers, the Master Plan suggests a number of changes. First among these is the creation of a walkable street network, not just on the corridor but also within each node. This primary change will set the stage for future change; it will establish a more town-like framework matching the quality of Old Town Fairfax. Doing so will make these areas attractive for employment to support retail during the day, and attractive to new residential development to provide high capture of consumer spending and enable vital high utility districts.

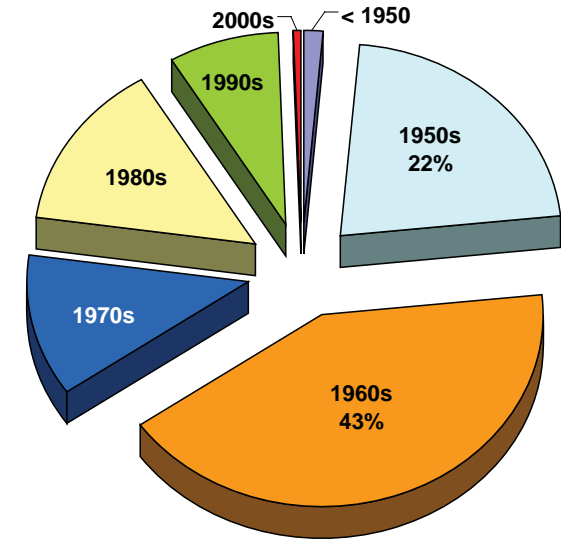


Chart 3: Retail Square Footage in Corridor by Year Built
Source: City of Fairfax.

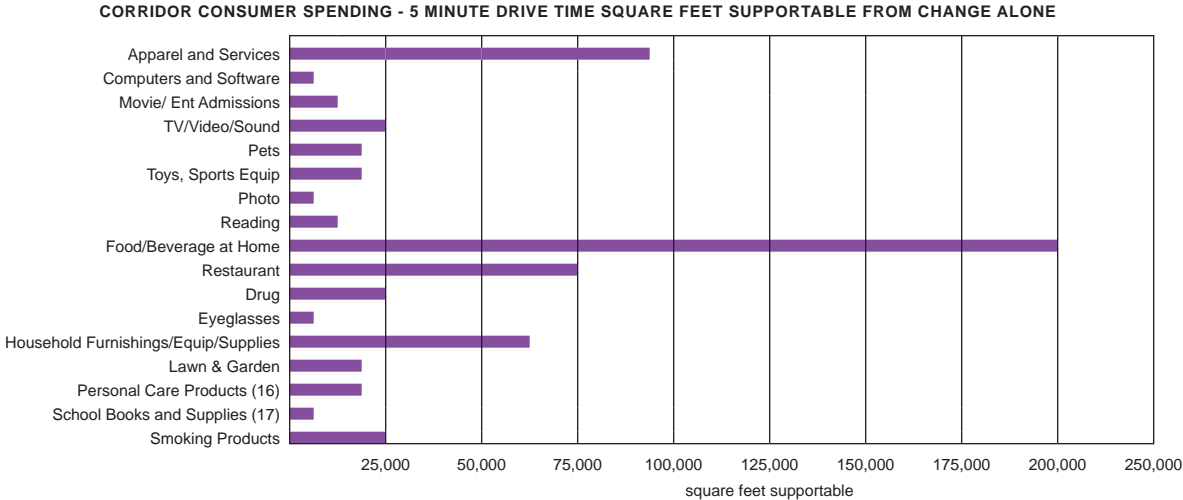


Chart 4: Space Supported By Corridor Change*
This chart enumerates only the new spending available to support business between 2006 and 2011—in other words it assumes that there is no capture of current spending—and thus the numbers shown represent additional and not total space demand. Total space demand is much larger but would include existing facilities.

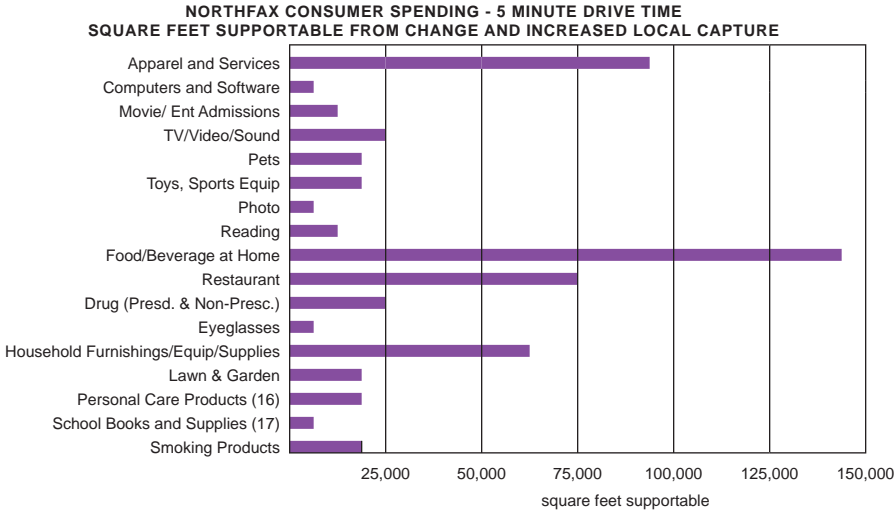


Chart 5: Northfax Retail Space Demand by 2011

HOUSING: PROVIDING A VARIETY OF CHOICES

When understanding the potential for housing, the market is regional rather than local. Urban Advisors looked at trends by regional planning agencies and data from ESRI Business Information Services (ESRI BIS). According to the Metropolitan Washington Council of Governments, the number of Fairfax County households is projected to annually grow at 1.7% to 2010, on par with the Metropolitan Statistical Area (MSA) but below the 2.4% for Northern Virginia. The city, by the same regional forecast, will grow by 1.2% annually to 2010, adding 100 households annually. Meanwhile the county is expected to grow annually by 6,500 households⁷. ESRI BIS is less optimistic but still projects that Fairfax County will add 17,135 households between 2006 and 2011, or 3,427 annually.

The question for Fairfax is one of capture as opposed to a lack of market demand. Fairfax itself is *projected* to capture a relatively small portion of the projected regional growth—in the range of 900 households in five years. Projections of the near future, however, are often based on the recent past and expectations based upon existing land use patterns. Forecasts rarely account for the redevelopment of land with more efficient uses, and cannot account for potential changes in planning and policy. In other words, the future is not determined; regional growth suggests a potential, but not inevitable demand for housing. So the issue for housing capture is what kind of housing can be proposed in the redevelopment of Fairfax Boulevard that will attract a significant share of future homeowners.

⁷ "Growth Trends to 2030: Cooperative Forecasting in the Washington Region," Membership of the Metropolitan Washington Council of Governments, Fall 2006.

The Fairfax Boulevard Master Plan introduces a series of housing types based upon the preferences of demographic segments that favor a more urban lifestyle, as opposed to those in the market for single family homes on large lots. While this demographic segment forms only a portion of total households, their numbers are still significant. The mix of proposed housing types is in keeping with the desires of Fairfax residents to have a high-quality mix of uses along the Boulevard.

To understand the potential for residential units in the study area, Urban Advisors identified market segments that comprise the local housing market demographics using ESRI BIS data on lifestyle categories. ESRI BIS provides "Tapestry" life-style segmentation of local populations along national categories. Their categories identify likely markets for different products and consumer preferences based on their socioeconomic and demographic profiles. Categories have labels such as "Laptops and Lattes," "Rustbelt Retirees," and "Exurbanites"; titles that attempt to describe the profiled group. The current breakdown of these segments is shown in Chart 6.

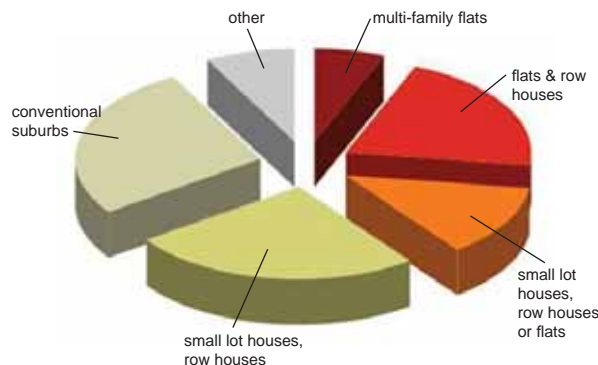


Chart 6: Fairfax County Housing Preferences by Segmentation, 2006
Source: Virginia Employment Commission & Urban Advisors Ltd.

Based on the demographic segmentation of the county, 40% of households are likely to prefer flats or rowhouses and 25% are likely to prefer small lot housing; all prefer access to neighborhood amenities. This estimation directly corresponds to national surveys that suggest 40% of the population would prefer to live in attached units (flats, or rowhouses) and 30% would prefer detached units on small lots; concluding that a full 70% of people prefer traditional town building styles, and most people (over 50%) want to be able to walk to neighborhood retail. Also according to Arthur C. Nelson, PhD and the U.S. Department of Transportation / Federal Transportation Authority by 2025 25% to 50% of new development will locate within transit corridors—corridors presumably like Fairfax Boulevard⁸.

⁸ "The Next \$50 Trillion", Arthur C. Nelson, PhD, FAICP, Virginia Tech- Alexandria Center, February 2006.

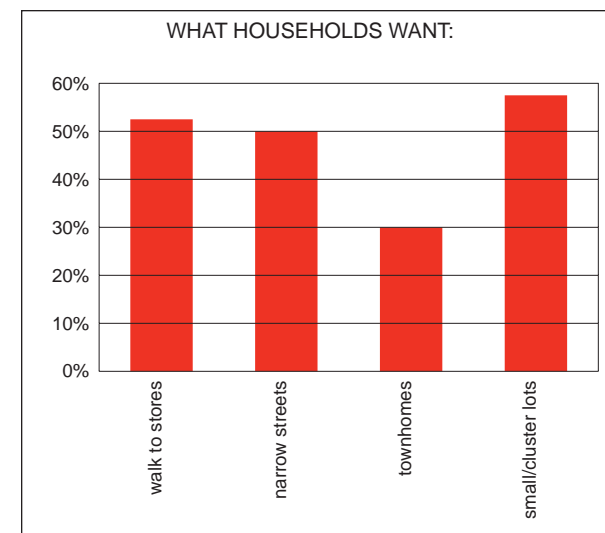


Chart 7: What households want
Arthur C. Nelson, Ph.D, FAICP, Professor & Director Urban Affairs & Planning Virginia Tech & Alexandria Center, February 15, 2006

Few places in Fairfax County have the opportunity to appeal to the preferences of these growing demographic segments. The towns of Clifton, Herndon and Vienna, Reston Town Center, the City of Falls Church and (assuming the current planning initiative changes its current growth pattern) Tysons Corner are the only alternatives. Based on the relatively few options, it seems likely that providing amenities on Fairfax Boulevard will make it an attractive location for more than the projected percentage of county growth. At the same time, it is necessary to be conservative about demand until the market is proven. While there are many households that would prefer to live in a quality urban environment, many are not pioneers. The unmet demand for such units is high, based on demographics, but the plan does not assume the necessity of capturing that demand—the figures presented are based upon change. As the area develops, it can be expected that the more cautious investor will feel safe to participate and demand will likely accelerate.

To translate these preferences into an estimate of the number and types of units, Urban Advisors applied market segmentation data to Fairfax County growth trends. The results are shown in the Tables 2 and 3. Examples of the specific types of housing appealing to each segment are shown on the following page.

The annual demand numbers are conservative. This is in keeping with the current economic downturn in housing development, but is also a reflection of the need for caution in a pioneering market. As changes take place in the street form and as amenities begin to appear and sales take place, a second wave of investment by prospective homeowners can be expected that is more likely to reflect the extent of suppressed demand in the area.

Table 2: Fairfax County growth trends – Demographics.		
Fairfax County Growth to 2015		49,000 HH
Enterprising Professionals	20%	
Wealthy Seaboard Suburbs	11%	
In Style	6%	
Urban Chic	3%	
Trendsetters	1%	
Total Target Segments		41%
New Target Households		20,000 HH
Fairfax Boulevard Capture		14%
	8 year study area growth	2,800 hh
	Annualized	350 hh per year

Table 3: Fairfax County growth trends – Building Types			
8 Year County Housing Demand			49,000
Flats	26%		12,800
Row Houses	14%		7,100
Small Lot	25%		12,300
Conventional SF	27%		13,100
Study Area Housing Demand		8 Year	Annual
Target market		2,800	350
Flats	44%	1200	150
Row Houses	24%	700	90
Small Lot	32%	900	110

Housing Market Segments

Enterprising Professionals (20%)

Enterprising Professionals are young, educated, working professionals who prefer newer neighborhoods with row houses or flats. This fast-growing market is ranked second of all segments for labor force participation; their median household income nationally was over \$66,000 in 2005—in the Washington, D.C. metro area it is higher.

Wealthy Seaboard Suburbs (11%)

Wealthy Seaboard Suburbs consist of married-couple families in established quarters of affluence in metropolitan areas. Approximately half of employed persons are in management and professional occupations. They prefer older style neighborhoods with house values that exceed \$450,000.

In Style (6%)

In Style families live in affluent neighborhoods in single-family homes and townhouses close to urban amenities. Living an urban lifestyle, these are mostly professional couples one-third of which have children.

Urban Chic (3%)

Urban Chic residents are well-educated professionals who prefer an urban, exclusive lifestyle. Most own single-family homes with a median value of \$633,000 in urban neighborhoods. This segment includes married-couple families and singles, with a median age of 41.4 years.

Trendsetters (1%)

Trendsetters are on the cutting edge of style, young, diverse, mobile, educated professionals with substantive jobs. More than half are single-person or shared, most still rent, preferring upscale, multi-unit dwellings in established city districts.



Single-Family Small-Lot Homes



Rowhouses and traditional main street with urban amenities that serve the neighborhood



Apartments and townhouses



ECONOMIC CONCLUSIONS

A review of the economic trends yields one major conclusion: there is sufficient demand to support redevelopment on Fairfax Boulevard, but only if the development types (including the shape of the corridor itself) are changed. Cosmetic building changes, with the same suburban style of streets, setbacks, separations between uses—in other words, further strip development with low utility—will not endow the corridor with the attributes for successful competition in future markets. Fortunately, given the existing level of organization of the City and business community, Fairfax has the capacity to implement these changes.

The Master Plan balances the desires of current Fairfax residents while also addressing the requirements for successful pedestrian oriented mixed-use development. The market is supportive of this development, but only if it contains all of the elements outlined by the Master Plan. The redesign of the Boulevard cannot be pulled out of the plan for instance; the streets and the development they adjoin are integrated and cannot be separated. Likewise, retail and residential mixed-use are not optional—the combination is critical for providing vitality that helps draw customers from a wider radius, thus increasing the capture of the businesses on the corridor. The mix of uses in compact, walkable development is itself a draw that captures the customers, employment, and residents of the future. If the City and its residents are willing to take the steps to accomplish the plan, the market support is there.